THE ARCHITECT & BUILDING NEWS

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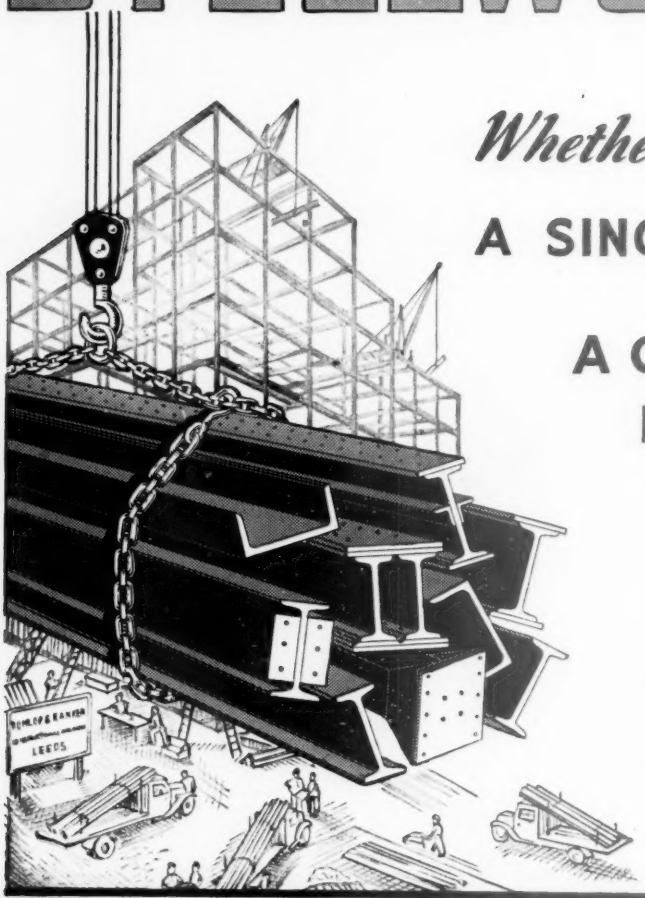
SEPTEMBER 13, 1951 · VOL. 200 · NO. 4317 · ONE SHILLING WEEKLY

STEELWORK



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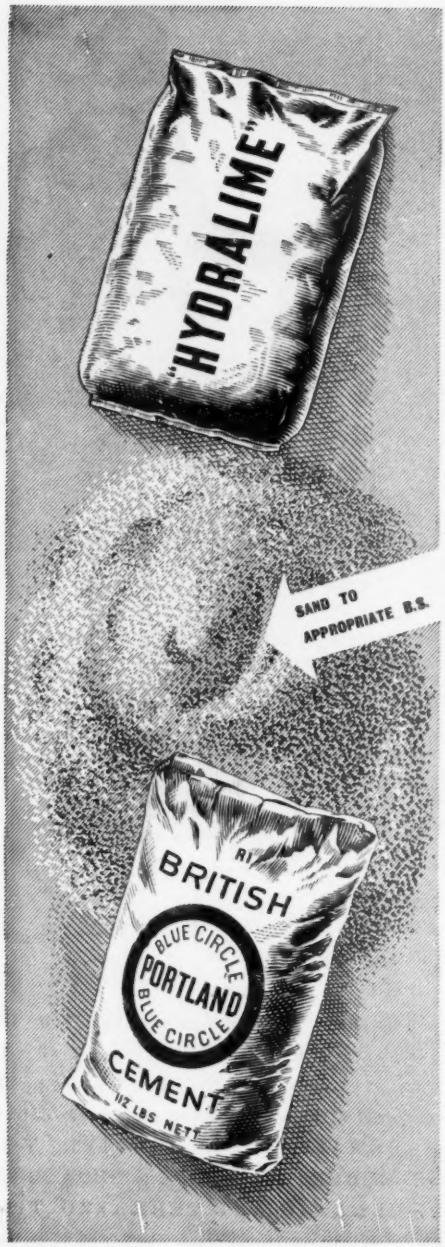

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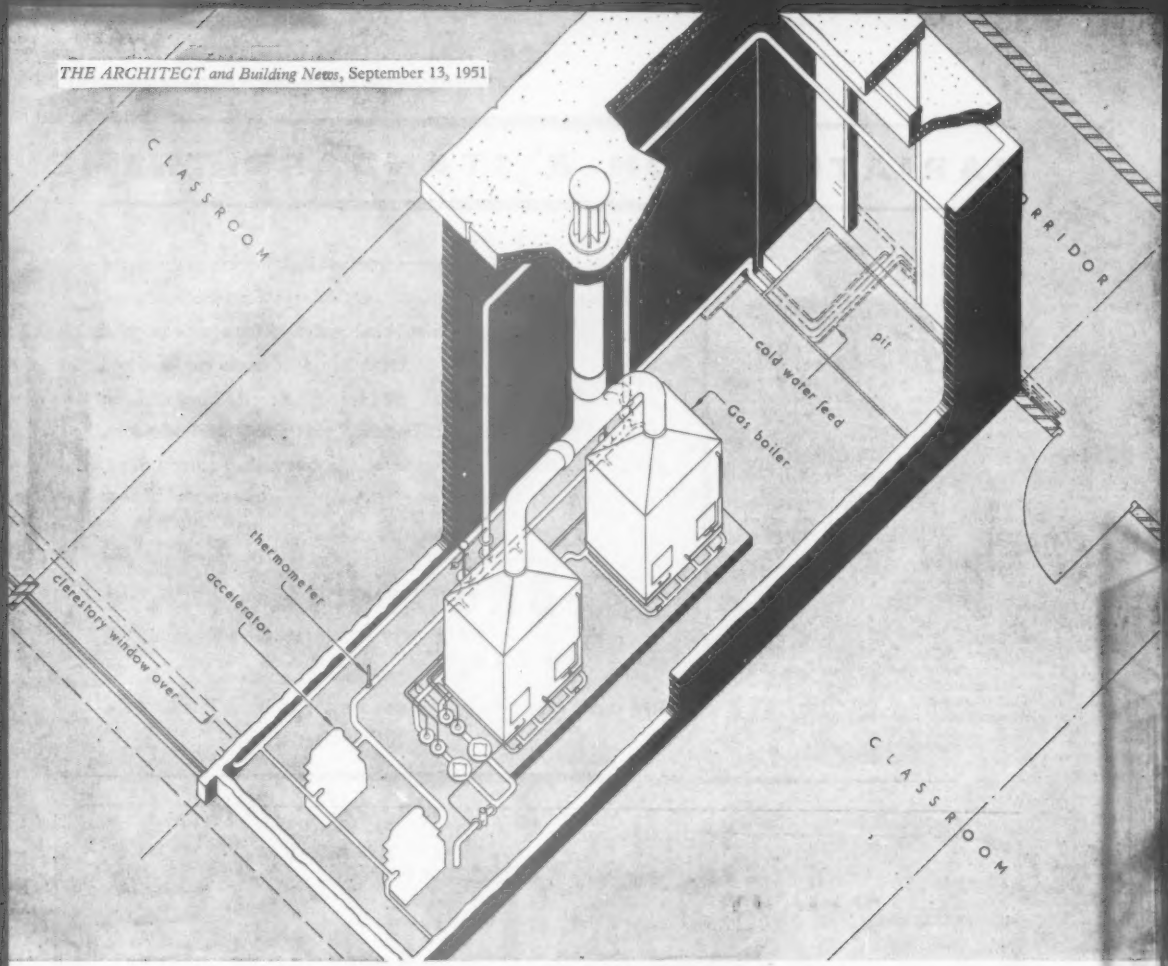

Boiler house for New Classroom Block, Twickenham Technical College. County Architect : C. G. Stillman, F.R.I.B.A.

GAS solved this school heating problem

Gas-fired low pressure central heating is installed in this most recent extension to Twickenham Technical College, opened in 1948.

Factors which influenced the choice of boiler plant were : the distant situation of the new buildings in relation to the main boiler house ; the difficulty of providing fuel storage and access to it ; and the difficulty of providing a suitable chimney that would be unaffected by the proximity of adjacent high buildings.

The new single-storey block contains eight classrooms with cloakroom accommodation. The total catalogue rating of the two automatically controlled boilers is 720,000 B.T.U's per hour.

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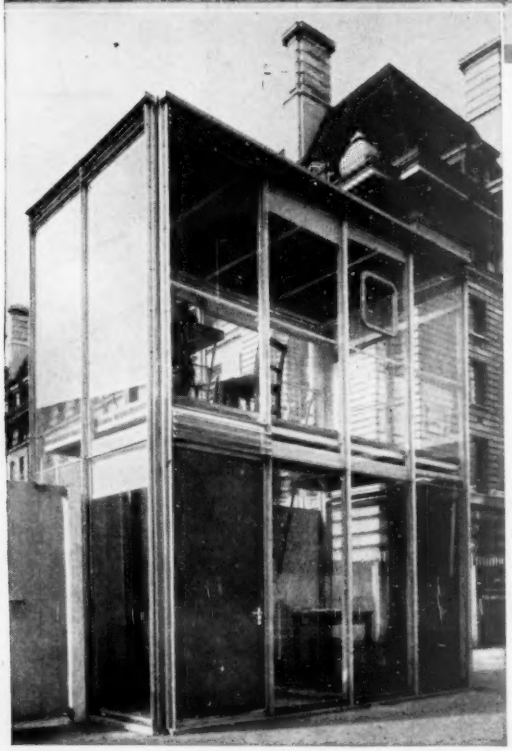

INTERESTING GLAZING FEATURES AT THE FESTIVAL

At London's South Bank, the Festival of Britain might well be called a Festival of Glazing — indeed, windows abound wherever you go. In collaboration with leading architects Williams and Williams have produced a great deal of this glazing in extremely interesting designs and applications. Not only in the Transport Pavilion, in which Williams and Williams used every known and many new forms of glazing, but in many other buildings Williams and Williams metal windows, doors and Aluminex Patent Glazing were definitely on the job. On these pages we shew some unusual applications of the products of the Williams and Williams Group.

The glazed entrance ramp on the Transport Pavilion (*Above*) Steel windows form the hundred foot parabola of the entrance ramp to the Transport Pavilion. This glass wall is twenty eight feet high diminishing to twenty feet as the ramp rises. The double swing doors are of pressed steel. Both windows and doors were made by Williams and Williams.

Traffic Control Tower
(Bottom Left)

To exercise control over the crowds and traffic at the County Hall entrance to the Festival, a control tower was needed. Aluminex was chosen as cladding for the tower to give maximum vision to the policemen and traffic regulators inside. Standing 15 feet high by 13 feet long the tower is clothed in plate glass held in Aluminex patent glazing with special joining muntins for the glass. Ventilation louvres are set at the top of the glass panels.

The Country Pavilion
(Top Right)

The open side of the Country Pavilion resembles a Dutch barn — familiar throughout the English countryside. This effect was aided by a range of Aluminex suspended from the roof and angled over the open space below. Held in light steel frames this range of Aluminex is 100 feet long and 12 feet deep. The frames are suspended 30 feet above the ground by means of light rustproof steel rods.

Thameside Restaurant
(Middle Right)

The Thameside Restaurant directly overlooks the Thames. So that the view might be unimpaired and that visitors might pass out onto the promenade that flanks the restaurant, Williams and Williams supplied a 150 foot run of doors and windows for this elevation. The windows were divided into 19 bays, ten of which opened as sliding doors. Each bay consisted of five units with the centre three sliding back on one another to allow maximum passage. The sliding doors run on stainless steel wheels in bronze tracks at the cill, and are controlled by roller guides at the head. The bronze track is sunk into the floor to eliminate any possibility of obstruction.

Sea and Ships Pavilion
(Bottom Right)

In the elevation of the Sea & Ships Pavilion shown in the photograph, the 27 foot high glazing is supported in especially designed deep finned Aluminex. These bars are 6½" deep instead of a 2" deep bar which would normally have been used. Williams and Williams developed this special extrusion to assist the architect to achieve the special effect shown which is extremely pleasing to the observer.

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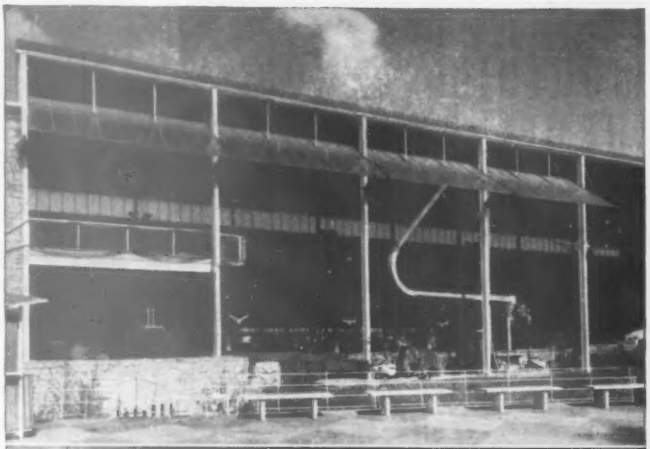

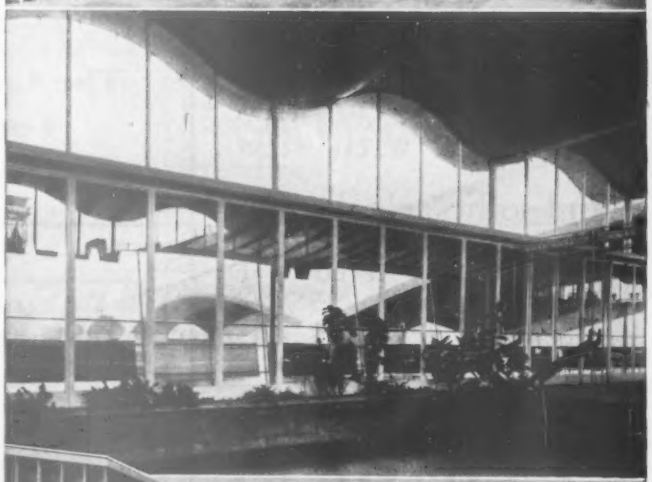

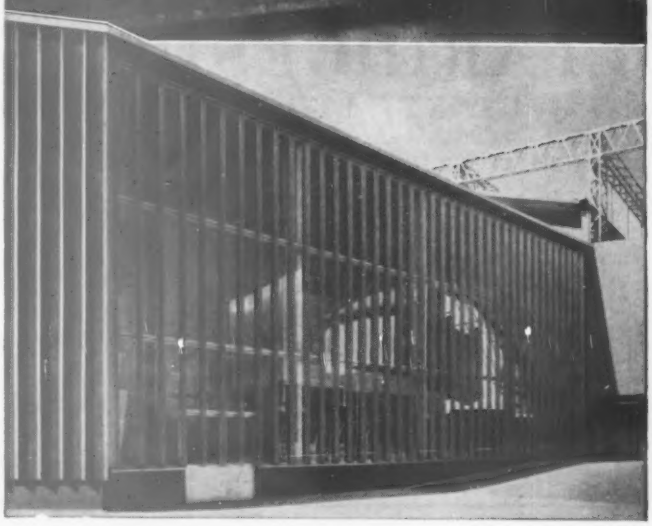

Transport Pavilion *Architects:* ARCON. *Main Consulting Engineers:* FREEMAN FOX & PARTNERS. *Consulting Engineers to Architects:* FELIX J. SAMUELY *in collaboration with* DR. H. GOTTFELDT, M.I.STRUCT.E. *Contractors:* RICHARD COSTAIN LIMITED.

Thameside Restaurant *Architects:* FRY, DREW & PARTNERS. *Consulting Engineers to Architects:* OVE ARUP & PARTNERS. *Consulting Engineers:* R. T. JAMES & PARTNERS. *Contractors:* KIRK & KIRK LTD.

Country Pavilion *Architect:* BRIAN O'ROURKE, A.R.A., F.R.I.B.A. *Consulting Engineers:* FREEMAN FOX AND PARTNERS. *Contractors:* RICHARD COSTAIN LIMITED.

Sea and Ships Pavilion *Architects:* BASIL SPENCE & PARTNERS. *Consulting Engineers:* FREEMAN FOX AND PARTNERS. *Contractors:* RICHARD COSTAIN LIMITED.

Traffic Control Cabin *Architects:* ARCHITECTS CO-OPERATIVE PARTNERSHIP. *Consulting Engineers to Architects:* OVE ARUP & PARTNERS. *Consulting Engineers:* FREEMAN FOX AND PARTNERS. *Contractors:* RICHARD COSTAIN LIMITED.


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Vol. 200. No. 4317

THE ARCHITECT & BUILDING NEWS

September 13, 1951

The "Architect and Building News" incorporates the "Architect," founded in 1869, and the "Building News," founded in 1854. The annual subscription, inland and overseas, is £1 15s. 0d. post paid; U.S.A. and Canada $9.00

Published by ILIFFE & SONS LTD., DORSET HOUSE, STAMFORD STREET, LONDON, S.E.1
Telephone: WATERLOO 3333 (50 lines). *Telegrams:* "ARCHITONIA, SEDIST, LONDON."

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BUILDING RESEARCH CONGRESS, 1951

THE Department of Scientific Research, in alliance with a number of other professional and learned institutions, is sponsoring a Festival Year Congress on the subject of Building Research. It takes place in London from the 11th to the 20th of September.

In this period of about ten days, apart from any other activities planned as part of the Congress, some ninety papers will be presented to the assembled members for acceptance and discussion. Thus, something like ten subjects a day will be "touched on" more or less thoroughly or passed in review before the Congress breaks up.

The proceedings take on, therefore, something of the character of another and longer-established jamboree, the annual Conference of the British Association for the Advancement of Science, which, in spite of having or professing a so much wider range, still finds itself somewhat unrelated to the wider humanities of civilization—the relation to ethics, art or morals. The attempt to widen the issues of its proceedings, made in that inspiring Presidential address of Sir William Bragg as long ago as 1940, has borne but little fruit; as C. H. Waddington expressed it: "Poetry and the arts, in their tentative approaches to science, were wooing a frigid adolescent . . ." if such matters are discussed at all they have usually been taken as "a mere moaning for π in the sky."

Is this Building Research Congress, in its more limited field, to have something of the same constriction? We would not condemn conferences and congresses out-of-hand; there are, in most, new ideas announced and even summaries of what has gone before can be useful for specialist workers' reference. But the real crux of the whole matter lies in the possibility that, as so often occurs, there may be no final co-ordination of the findings or any attempt to place the findings in strict relation to the arts, the crafts or, as Bragg implied, even to ethics and morals or religion. The fact is that there is no organized body, either national or international (not even UNESCO), that is positioned to do this sort of summarized review and to put Building Research into its proper perspective.

Building and research into its methods and materials are directly related to architecture, whatever the scientists do in isolation; there is also a relationship to some 5,000 years of building craftmanship. But in the whole of the summarized proceedings which we have so far been able to examine, there is little to indicate a recognition of either of these relationships. If they are recognized, *sub rosa*, then the multifarious and busy activities of specialists are obscuring them. This is not a mere carping condemnation of the proposed proceedings or a preconceived criticism of what can be called the Usefulness of the Congress (note the capital "U"). It is indeed a reiteration of what many intelligent folk are coming to think with increasing force: that science and scientific method, for all its efficiency, is not quite up to organizing research into its own relationships with the world in general and with so-called civilization and the humanities in particular. It can be said that this is really a socio-political problem, among many similar ones, and outside the range of exact science, but this is to accuse science of being concerned merely with the processes of breaking-down, with analysis, with research and not with the wider problems of synthesis and the search after a fuller life.

As Whitehead once said "... in the modern world, the celibacy of the medieval learned class has been replaced by a celibacy of the intellect which is divorced from the concrete contemplation of the complete facts ... the dangers are great. ... The

directive force of reason is weakened. The leading intellects lack balance." There is no doubt that science enables a more efficient performance of the specialized functions of the community, but the generalized direction can still lack vision. A greater attention to detail may even add to the danger produced by a lack of imaginative co-ordination.

There is also another, though relevant, matter to which the trained technical and scientific mind could, with advantage to the community, devote more time. Ultimately all building research into methods and materials, being to the end of building and architecture, are of paramount importance to the designer and the executant. It is essential that results are published without delay and in such forms that they are either quickly understood without further research, or are readily usable in the hurly-burly of actual construction. This means the reduction of findings to terms and forms understandable by those who, while they are competent enough designers (synthesizers), or expert craftsmen (executants), are not trained specialist scientists. That it is not beyond the wit of the scientist to get this sort of thing done is evidence by certain post-war official publications; but there is not enough of it and a great deal could be accomplished by a scientific study of the best methods by which to get it done.

Traditional methods and materials have been subjected to considerable objective scrutiny and their material qualities are passing through the millstones of the scientific laboratory and, coming out once more into the sunshine at the end of the process, in company with a few new ones, now find that there is but little change of soul or of heart in those who have made them or but little recognition of the aesthetic development which brought them into being in the past. That is where Architecture and Building now stand and, in essence, that is the result of Research. As Bertrand Russell said in one of his Reith lectures, " If human life is not to be dusty and uninteresting, it is important to realize that there are things that have a value which is quite independent of utility . . . men who boast of being what is called ' practical ' are for the most part exclusively preoccupied with means. But this is only one half of wisdom." The other half, in the present instance, is what we do with research for the glory and joy of human life. The use of facts can be as far-reaching and as " scientific " as their discovery.

The Congress will likewise be far-reaching in its influence if this attitude of mind permeates its work. To the members, from whatever part of the world they come, Greetings.

EVENTS AND COMMENTS

BUSMEN'S HOLIDAYS

It is just now architecturally fashionable to go to Italy. Students go to see and if possible work for Mr. Ernesto Rogers while the slightly older go to see the less recent architecture. On the whole wild enthusiasm results from these visits. There are, however, exceptions. Mr. H. W. Rosenthal has writen to me in a slightly disgruntled way about the beauties of Italy. He says, for instance, that a lot of the enthusiasm is "Banister Fletcher's influence." Mr. Rosenthal does not much care for romantic narrow streets and picturesque vistas. He promises to dilate on this theme later. My feeling is that Mr. Rosenthal had a slight pain in his pinny when he wrote and that we shall find that he is really among the enthusiasts when the account of his travels appears.

Architects are among those most prone to take busmen's holidays. I do not imagine that many accountants delight very much in inspecting the methods of their opposite numbers in other countries. Barristers can, of course, be found practising at many a continental bar but large scale migrations of other professions are not common. On the other hand very large numbers of architects spend their entire holidays examining the work of other architects in foreign parts; queer chaps.

SKYLON AND DOME

Rumours continue to rumble round about the future of these two structures. Sir Gerald Barry says that a number of offers have been received but nothing is yet fixed. I read somewhere that a Dewsbury blanket firm is negotiating for the Dome as a wool store. Morecambe is said to be interested in the Skylon as a rival to the Tower at Blackpool. Personally I hate the idea of either of the structures going into the "cab business" like a worn-out horse. If they are to be re-used there should be some sort of control. They might perhaps be put on the Ministry List of protected buildings. If they are not we shall have them covered with sky signs and dirty bunting.

COVENTRY CATHEDRAL

The public interest in the exhibition at the Building Centre has been remarkable. The exhibition which closed on Sept. 8 has been seen by over 5,000 people. On the whole the comment of those not accustomed to read drawings has been between lukewarm to unfavourable. The Press have interviewed one or two people including a clergyman of 92. Their criticisms were not particularly interesting or instructive. Correspondence in national dailies continues sporadically with sniping by people not in full possession of the facts. There have also been one or two well-informed articles including one by John Betjeman in the *Daily Telegraph*. Mr. Betjeman who feels deeply on such matters finds the cathedral spiritually unsatisfying. He blames the conditions for this and not Mr. Spence whom he clearly considers to be a clever and sensitive architect. The Garden of Rest calls

forth the best Betjeman and he describes it as "one of those places with municipal lawns where you are not quite sure whether it is sacrilegious to eat a picnic lunch among the rather over preserved remains."

CURRENT EXHIBITIONS

Two exhibitions which I shall be unable to attend but which you might like to see are the Festival Exhibition of the Association of Civil Service Art Clubs in the Pillared Hall of the New Whitehall Gardens Building, and the other is "London—an Adventure in Town Planning" put on by the Institute of Contemporary Arts and worked out by the Civic Design Staff and Students of the School of Architecture of the Polish University College, London. The first will, among other things, give you an opportunity of seeing the inside of the new Government office. I understand that a number of architects in various ministries are exhibiting.

The Polish scheme for London is illustrated on another page. It is as you see daring and not terribly practical. The future of the very bright boys in charge of this school is, I believe, still not settled although their supply of students is rapidly running out.

THE CANTERBURY EXHIBITION

I am proud to be able to say that "I told you so" about the Canterbury exhibition. Nearly a hundred thousand visitors have seen it, as I write, and it has been decided to keep it open until September 20. On another page you will find pictures of it. I have praised the exhibition before and I have no hesitation in doing so again. Well done.

MILITARY INTERLUDE

It is surprising how quickly the year passes and I find myself again dealing with recalcitrant electronic machinery. This year, in addition to the machinery, there are the Z men, and very good too, thank you. Most of them are really keen to learn, and whatever their private feelings about being recalled they have buckled to with a will. From conversation with them I am more convinced than ever that it is the wives of this country who have kept recruiting for the Territorial Army so low. The weather so far has been dry but low cloud has interfered with operations. Radar, it is true, does not trouble with clouds but the pilots of the aircraft seem to get anxious if they cannot see the ground. We have little shooting and the men are perhaps a little disappointed with me for discouraging them from firing into the clouds at £7 10s a bang. The advent of national service and Z men has meant that we have started work earlier and gone to bed later than ever before. For the first time since the war we have our own and properly organized mess with an Italian chef called Giuseppe and a head waiter called Henry who, after ten years as a steward at sea, did forty on the Great Eastern railway dining cars. He will be seventy next week and has the dignity of a retired high court judge. Our only trip so far this year has been an evening drive to Hunstanton where the 12ft dinghy championships were held last week. We arrived in the dark and my sole memory of the place is a long illuminated pier with skating spelling itself out in large letters, and a strong smell of fish and chips.

ABNER

NEWS OF THE WEEK

War Damage Payments

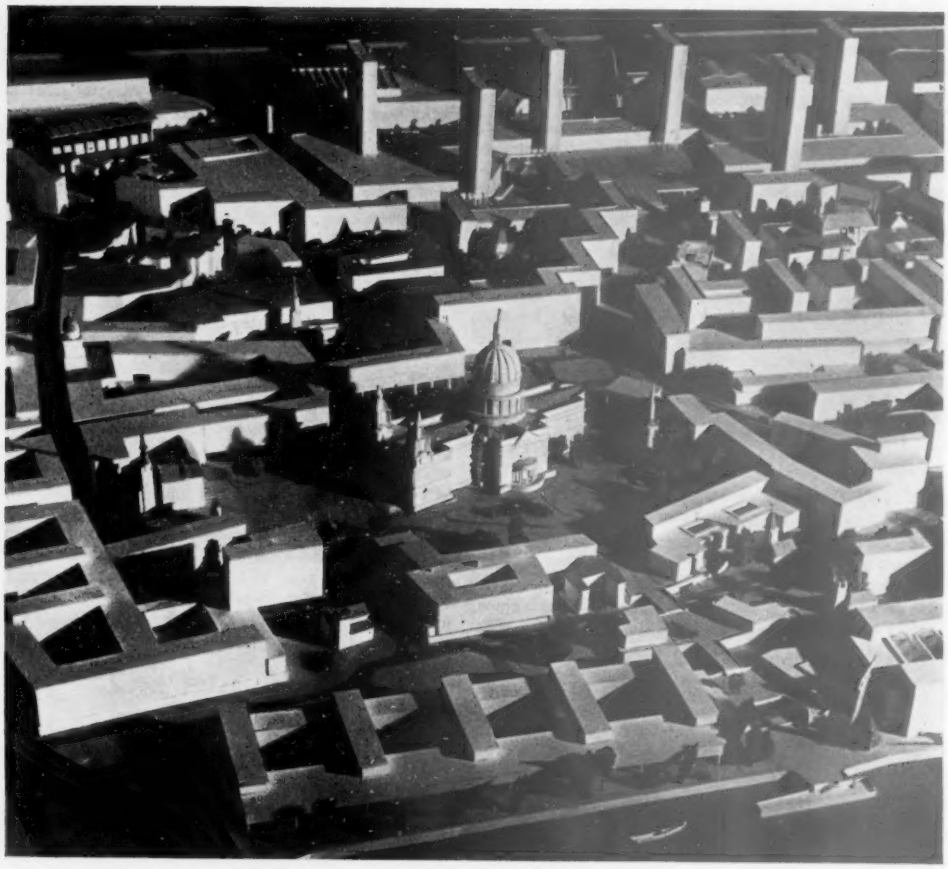
The War Damage Commission have paid out £1,000 million since April, 1941, when they made the first payment. War Damage Contributions by property owners to the Government total £198 million.

During the war some 3,420,000 buildings in Great Britain and Northern Ireland were damaged or destroyed by enemy action, including 3,160,000 houses. Over 40 per cent of the buildings were in the Greater London area.

Individual payments amount to £689 million—£475 million for the cost of repairs done and £214 million representing the loss in value where war damage repairs would have been uneconomic or undesirable. In addition, £270 million has been paid to local authorities for the repair of houses and for site clearance, and the remaining £41 million to the Ministry of Works for the repair of houses and public utility undertakings and roads.

Of the total payments, £705 million was for houses, £84 million for factories, £67 million for commercial buildings such as warehouses, £37 million for shops, £24 million for

Park Crescent restored, painted and ready for inspection.



AN ADVENTURE IN TOWN PLANNING

St. Paul's area treated as a pedestrian precinct. One of the models in the exhibition at the I.C.A. Gallery by the Civic Design Staff and Students of the School of Architecture, Polish University College. See also facing page.

offices, £12 million for hotels and licensed premises and £8½ million for churches. Greater London's share of the payments represents about 60 per cent.

During 1948, £149 million was paid, in 1949, £105 million, in 1950 £92 millon and for the first six months of 1951 £39 million. Payments are at present being made at the rate of about £1¼ million a week.

A.B.S. Ball, 1951

Owing to the success of last year's Centenary Ball of the Architects' Benevolent Society, it has been decided to hold another this year, and the largest ballroom at the Dorchester Hotel has been booked for Wednesday, December 12th. The tickets are two guineas each, including supper, and dancing will be from 8.30 p.m. to 2 a.m. to Charles Ernesco and his No. 1 Dance Orchestra. There will be a Cabaret, Side-shows, Competitions and Prizes. Tables may be reserved for large parties, and applications for tickets should be made to the Hon. Organizer, c/o The Architects' Benevolent Society, 66, Portland Place, London, W.1.

*

The Assembly Rooms at York is to be the meeting place for the British Colour Council's 6th Designers' Conference, to be held from October 8-11, for designers concerned with colour and design in interior decoration.

The speakers will include the Dean of York, Professor Richardson and Mr. Arthur Boys, who directed the restoration of the assembly rooms.

COMING EVENTS

The Royal Photographic Society.

Sept. 13. Opening of the 96th Annual Exhibition by the Right Hon. The Lord Brabazon of Tara, M.C., Hon. F.R.P.S., in the Society's House, 16, Princes Gate, S.W.7. Open to the public without charge from Sept. 14 to Oct 14 from 10 a.m. to 8 p.m. daily (Saturdays 10 to 5.30 p.m., Sundays 2.30 to 5.30 p.m.).

Department of Scientific & Industrial Research.

Sept. 27 to Oct. 5. Dry Rot and Woodworm Exhibition will visit Croydon Council Chambers. Open 11 to 8 p.m.

Town and Country Planning Summer School (under the auspices of the Town Planning Institute).

Sept. 17-22 at Oxford. Application to the Secretary, 18, Ashley Place, S.W.1.

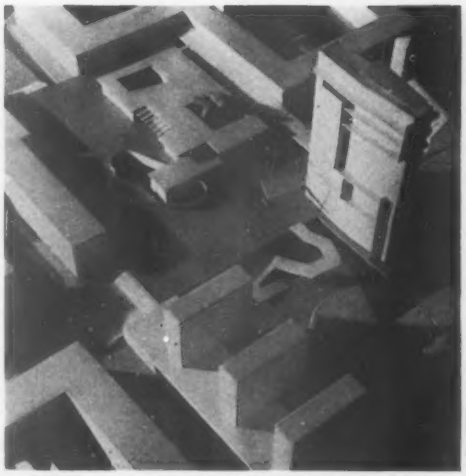
"LONDON AS IT COULD BE"

The Polish Exhibition at the I.C.A. Gallery

IN his introduction, Professor Smigielski writes: "It can hardly be disputed that no new values are being added to the visual appearance of the Metropolis and the existing values, the historic inheritance, are gradually in the process of destruction . . . The evaporation of art from civic design during the nineteenth century was one of the main causes of the degeneration of town-planning. The artistic aspect of planning is still neglected to-day and there are no signs of any large-scale revival . . . Town planners are now more concerned with social and economic aspects than with the art of physical environment . . ."

The aim of this exhibition is to direct attention to this almost forgotten aspect of town-planning, which started in November 1946, with a comprehensive research into the London problem and extended over a period of five years. The work of the teaching staff was combined with the work of students.

The Master Plan is the key to the whole experiment, the individual studies visualize the final stage of long-term redevelopment.



On bombed sites, north of Fleet Street a new Press Centre is proposed.
A system of open blocks, combining Press offices with printing works, enables the public to watch the production of newspapers. Around a two-level square, with a tower building as a dominant feature, shopping, business and entertainment centres are grouped.

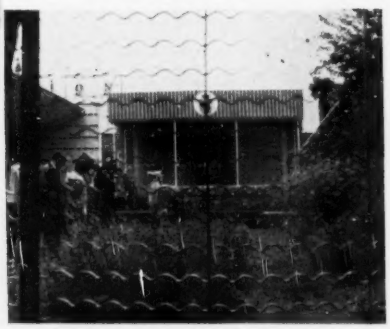
The exhibition, which has been designed by Z. Skrobanski, consists of a Master Plan for London with detailed studies of Sloane Square; Piccadilly Circus; Victoria Station and Westminster. City of London: Master Plan and details of Press Centre (illustrated above); Covent Garden; other studies include Euston Station and Camden Town; Soho; Chelsea; Trafalgar and Leicester Square, and the South Bank, also illustrated on this page.

The South Bank is the only area where London of the future could be designed on completely new lines, and Rehabilitation has already commenced by the South Bank Exhibition..

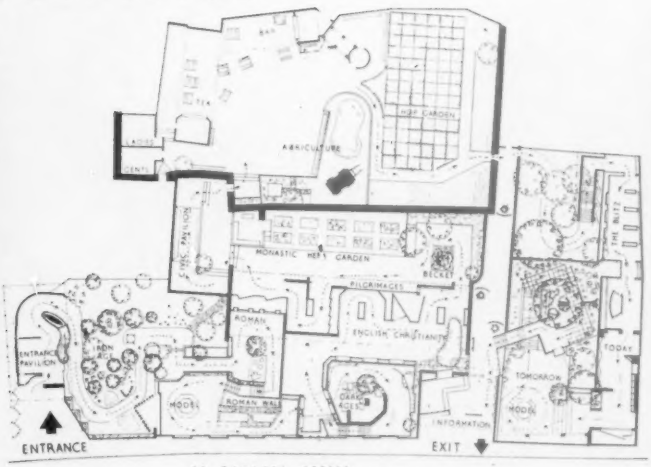
The proposals of the Polish School of Civic Design visualizes are:—Extension of London Central Area across the river into five zones corresponding with the utilization of the North Bank: Opposite the Tate Gallery—Arts Schools and Exhibition Halls.
Opposite Whitehall—Government offices.
Opposite the Strand—a Concert Hall, a National Theatre and Entertainment Centre.
Opposite the City—Offices, Business premises, Hotels.
Opposite the Tower—the extension of the Port of London.
The hinterland, framed by high blocks of flats developed as a high density residential area to house 53,500 people, with its local core, linked up by a visual axis with St. Paul's.

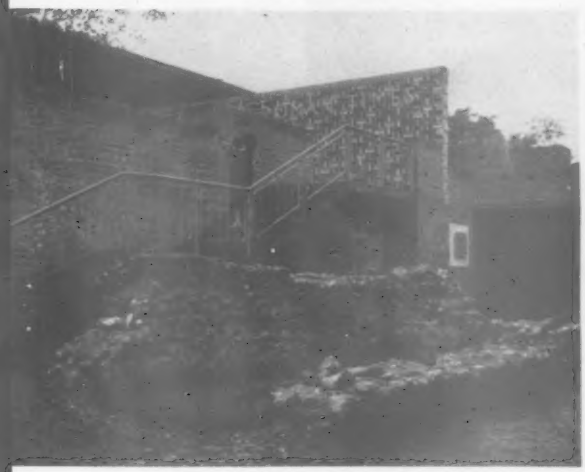
The struggle, Church versus State, following the murder of Thomas Becket is symbolized in a Courtyard enclosed by the old Friary wall. The balanced hands carry a model of the Cathedral and a sword. Figures of Knights and Churchmen keep watch.

Canterbury Festival Exhibition



Through a screen in the courtyard can be seen a Monastic Herb Garden. Beyond is a pavilion representing Civic Government.





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2

NEARLY 90,000 people have already visited this Exhibition, which, by popular demand, has had its closing date extended to September 29.

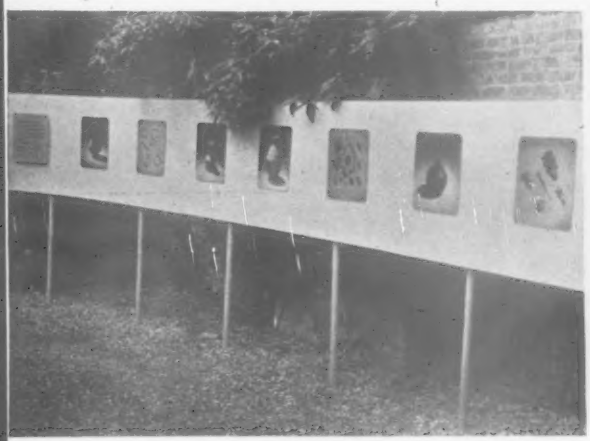
The site of the Exhibition was laid waste by air raid in 1942, and already contained the ruins of a second century Roman Town House, the walls of a Mediæval Friary and an orchard.

Exhibits, which are mostly in the open air, tell the story of the part played by Canterbury in the history of Great Britain and the Christian world. The theme, beginning in the past through the present and continuing to the future, can be read on the plan.

Pictures on this page are as follows: (1) Roman Times. The steps lead down to remains of the Roman Town House in brick, stone and flint. (2) English Christianity. The story of St. Augustine's Mission is told in pictures under cover on the right. (3) Changes of level and planting are most effectively used. The steps lead down to the Roman remains. (4) and (5) The Dark Ages. Note the simple but effective form of stand. The pictures are of Saxon jewellery, glassware and pottery. The monolith in the right-hand picture is a copy of the pagan idol set up by Saxon King Ethelbert and preserved at St. Augustine's Abbey.

3

4



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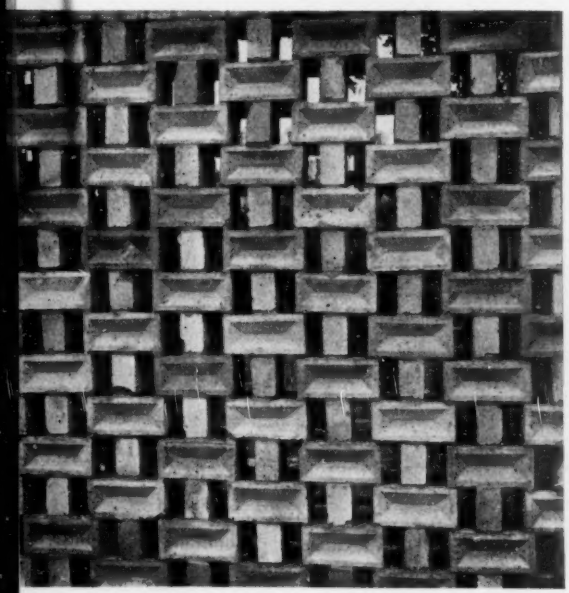
Throughout the Exhibition brick and block partitions are made interesting by appropriate patterning. In addition, bricks are coloured individually in different colours.

CANTERBURY FESTIVAL EXHIBITION



SOUTHILL SCHOOL HEMEL HEMPSTEAD

for the

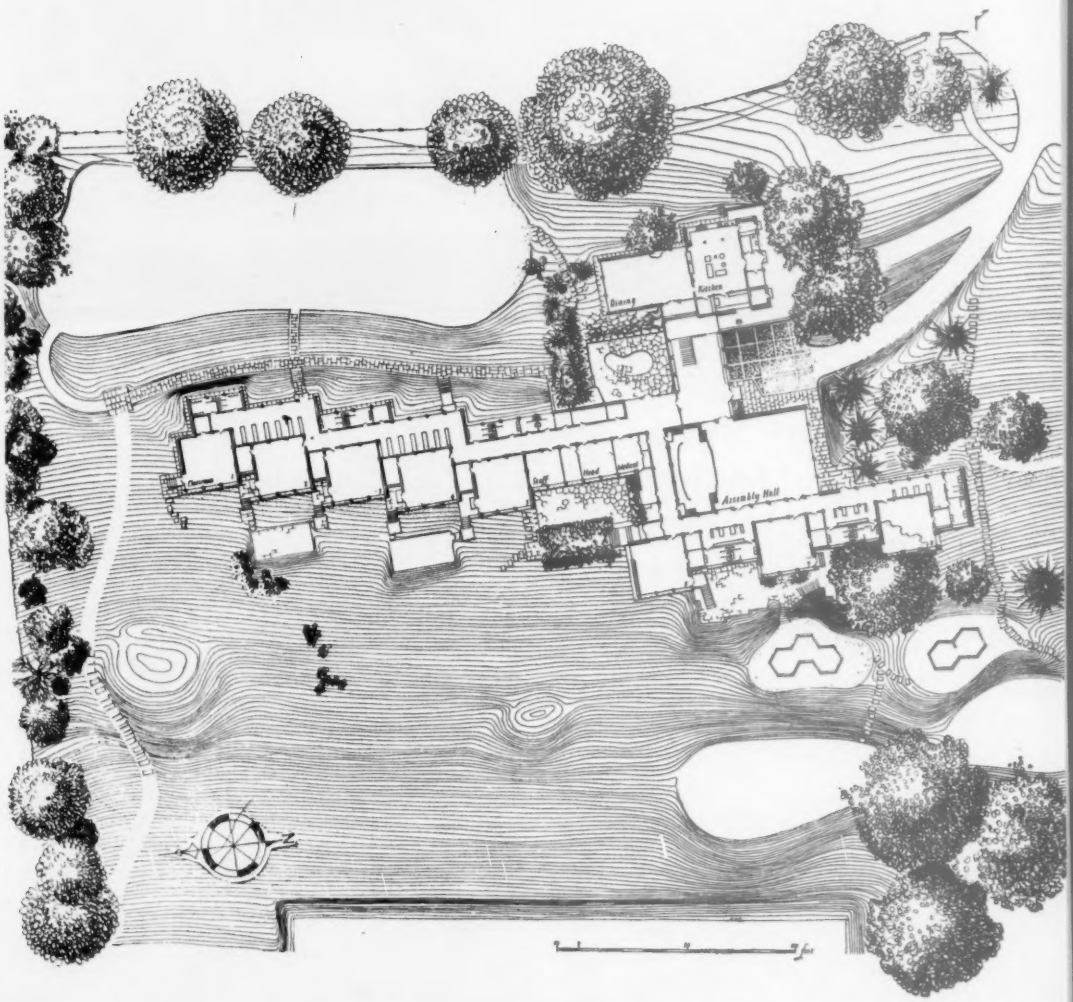
Hertfordshire County Education Committee

architects:
HARRISON & SEEL
in collaboration with
C. H. ASLIN, F.R.I.B.A.
county architect.

assistant architect-in-charge,
Roger Booth

THE entrance hall forms a link between the main part of the school and the dining room block and there is a view through to the lily pond beyond. Viewed right is a detail of the entrance canopy in sheet metal. Brick panels were introduced in places to break the white monotony of the standard prefabricated concrete cladding slabs by providing a change of texture and colour. The clerestory panels are of ribbed asbestos and the large plate glass windows below are set in wood frames. The second-hand York stone paviors provide a foil to the mechanical qualities of the construction.

The school, which is planned for 320 juniors and infants, is situated on a steep hillside having a general slope from West to East and is planned so as to take maximum advantage of the contours. An existing tennis court afforded a level platform for the siting of the entrance and assembly hall with the dining kitchen block at high level approached by a staircase. All the trees shown on the plan are existing and one of the problems was to take advantage of the fine parkland qualities of the site. Though the construction of the school is on Hertford standard lines, the Architects were asked to " see what they could do " with the system to adapt it to a hilly site and were in consequence allowed to introduce certain non-standard features. The result demonstrates clearly the interesting possibilities inherent in the flexibility of the basic construction. The Junior wing is on the left, the Infants' on the right.



PLAN

General view above shows the stepping back of the junior classrooms on the left, which gives to each a measure of southerly aspect.

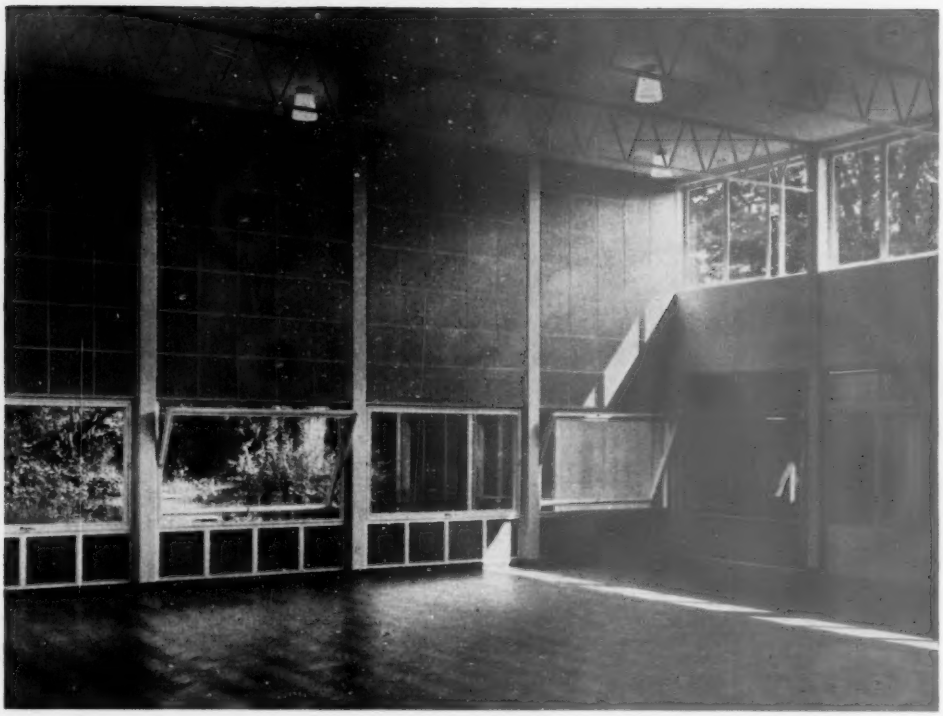
Top right is a view of an infants' classroom looking towards the stepped classrooms of the junior wings ; while an example of a junior classroom is shown below. Each classroom has its own colour scheme, but the whole school is painted with a wealth of different effects in basic colours. Daylighting is very adequate and illumination even. Glare is controlled by venetian blinds and a band of "plyglass" above the opening lights (and which can be detected as a less bright zone in the photographs) is used to reduce the daylight factor immediately beneath the window whilst providing better diffusion of light deeper into the room. The plyglass used is yellow in the infants' rooms and blue in the junior rooms adding an attractive colour note both inside and outside.

GENERAL CONTRACTORS: UNIVERSAL HOUSING COMPANY.

SUBCONTRACTORS

Accotile Flooring: Armstrong Cork Company. *Beech Floor in Assembly Hall:* Horsley Smith & Co. (Hayes), Ltd. *Bituminous Roof:* Wm. Briggs & Sons, Ltd. *Fibrous Plasterwork:* Claridges (Putney), Ltd. *Heating:* Weatherfoil, Ltd. *Paint:* Docker Bros. *Precast Concrete Wall Slabs:* Orlit, Ltd. *Plyglass Panels:* James Clark & Eaton, Ltd. *Reinforced Concrete Roof Beams (Precast):* Dow-Mac Products, Ltd. *Sanitary Ware:* Adamsez, Ltd. *Tiles:* Carter & Co., Ltd. (Special Coloured); Moordon Tiles, Ltd. (Concrete—in Entrance Hall); Wheatley & Co., Ltd. (Quarry). *Windows:* Hills (West Bromwich), Ltd. (Steel Frame and Metal); Holcon, Ltd. (Timber—including Carda).

SOUTHILL SCHOOL
HEMEL HEMPSTEAD



A view of the assembly hall showing the special use of Carda-type windows, placed low down along the rear wall to give a view of the gardens. Each window frames its own picture. The wall above is faced with acoustic tiles for correction of reverberation.

Below, two views of the entrance hall. The staircase up to the dining room is provided with a second handrail for the smaller children, who relish this special consideration. The wall tiles were designed by Peggy Angus in a repeat pattern of oak leaves and harts. They are coloured maroon, lemon yellow and white with light blue shading to the harts. The floor tiles are 12in x 12in blue concrete.

SOUTHILL SCHOOL HEMEL HEMPSTEAD

HOUSING MANUAL 1949
TECHNICAL APPENDICES

reviewed by
PAUL V. MAUGER,
F.R.I.B.A., M.T.P.I.

CONDITIONED as we now are by innumerable Government Publications, we no longer think of an appendix as a literary frill which we can well dispense with. Even so, we might feel less resistance to what is, after all, an outstanding book on building construction if it had a less pedestrian title. To which rather ungracious introduction it may be well to add that the subject matter of the 1949 Appendices C to K does not correspond with what is dealt with in the similarly lettered parts of the 1944 production and that the new arrangement is much more logical than the old one.

It is two years since the 1949 *Housing Manual* appeared and it is good to find that this compilation of the results of research carried on by various agencies has been so well worth waiting for. In the meantime, architects have obtained much of the information it contains but the sources have been so scrappy and various that we can now have a spring cleaning of many bits and pieces and let everyone in the office have a copy of T.A.1949.

The opening *Appendix C* on functional standards, however, suffers from the sort of tabular brevity which sends one, for instance, on a chase for B.S.C.P.3 for guidance as to the actual window areas required by the quoted sky factor; and though a summary is given here of the types of walling required to ensure the proper thermal transmittance coefficient, one has to search the next appendix for the corresponding information in regard to roofs. Among changes which will affect cottage ceilings is that ½in fibre-board (twice distempered) is no longer considered to have the necessary fire resistance and must now be skimmed.

Appendix D on materials and construction is first rate. It begins with a good section on foundations based on the recent work of B.R.S. and includes a note on the possible economy of short bored piles instead of trenches 3ft deep in shrinkable clays. It might have been added that any saving in cost which may be gained in reasonably stoneless subsoils is likely to be lost if the auger has to negotiate stony clay. Table 3 gives field tests for soils and the foundation sizes required for each type; as there are five grades from "very soft" to "hard" for silts, clays and loams, each with a different stipulated width, the emphasis is still on good site supervision by architect and local surveyor.

The shrinkage snags of no-fines and light-weight concretes for walling are sensibly covered in a section which is illustrated by several good cavity wall details. Wall construction is analysed by reference to the functional standards laid down in *Appendix C*.

Timber economy standards are tabulated for floor joists and boards (Tables 9 and 10) and a note is added on the limits which these standards impose on notching for service pipes. Timber roofs are also dealt with in a revised set of tables supplemented by a realistic paragraph and a sectional drawing of a roof which explain how to make the best structural use of the knotty material met with to-day. It is here that thermal transmittance through roofing materials is dealt with and it is explained, as it was in 1944, that to achieve the recommended U value of 0.20, a 1in layer of insulation laid between ceiling joists is necessary.

Appendix E deals with renderings and protective finishes, including plastering, on lines already familiar to those who have used the Ministry of Works Advisory Leaflets.

Appendix F on heat installation covers cooking and hot water services as well as District Heating. It is intended to be read with Chapter 5 of the Housing Manual and gives helpful guidance as to the selection of equipment and its installation. A simple method of calculating heat losses in Living Rooms is set out in tabular form and another table shows the comparative heat losses for rooms well and poorly insulated and the respective values of 8814 and 12324 B. The u/per hour should give the Architect an effective case for using clinker instead of brick for the inner skins for party walls, which, as table 7 shows, provides an improvement in the u value of .08. An important point affecting planning is emphasized in Table 24, where it is shown that even if pipes are insulated a greater saving of heat output is made if the primary circulation is kept down to a minimum length even if the draw-offs are relatively long than in locating the cylinder farther from the boiler and nearer the hot-water draw-offs. Though experienced people will have no doubt acted on this principle, it is satisfying to have it neatly demonstrated. It is interesting to note that in spite of recent experience which has tended to discourage the use of ducting for convected air to warm bedrooms, no caveats are entered against the practice. Radiators are, however, given as an alternative where large enough boilers are used.

An important suggestion, made in Appendix G, on the insulation of plumbing systems, is that storage tanks should be accommodated below first floor ceiling when the ceiling is lagged as advised in Appendix D. Failing this, the necessary lagging in the roof space to ensure freedom from frost is shown to be a fairly elaborate business. There is, however, no note on the desirability, where bye-laws permit, of running all cold water feeds off the Rising Main and using a controlled tank of the Rolyat type so as to obviate the need for a separate cold water storage tank.

Appendix H and I give useful advice on electrical and sewage disposal installations, and the book ends with notes on building costs and an Index to standard codes.

It is indeed fortunate that in our present impecunious state we should be able to obtain such a first-rate textbook for 2/-. If that were the end of the matter it would be of only passing significance. It is, however, worthy of grateful acknowledgement that Government-sponsored research has in this country now reached a very high standard, and that means should have been found during the past five years of putting it across in such readable form.

Housing Manual 1949. *Technical Appendices. Ministry of Works, Ministry of Local Government Planning (H.M. Stationery Office, price* 2s).

BOOKS RECEIVED

Stained Glass of New College, Oxford, by Christopher Woodforde. Published by The Oxford University Press. Price 25s.

Plastering, by J. T. Sawyer. Published by Edward Arnold & Co. Price 8s. 6d. net.

Laboratory Design, by H. S. Coleman. Published by Reinhold Pub. Corp., 330, West 42nd Street, New York. Distributed by Chapman & Hall. Price £3 16s. $12.

Building for Investment, by C. H. Cowgill. Published by Reinhold Pub. Corp. Price 56s.

Salisbury, by R. L. P. Jowitt. Published by B. T. Batsford Ltd., 15, North Audley Street, W.1. Price 8s. 6d.

Estimating for Building & Civil Engineering Works, by Spence Geddes. Published by George Newnes Ltd., Tower House, Southampton Street, Strand, W.C.2. Price 63s.

Royal Pavilion, by Clifford Musgrave. Published by Bredon & Heginbotham Ltd., 10, East Street, Brighton. Price 15s. net.

Grand Alliance, by Basil H. Tripp. Published by Chantry Publications Ltd., 63, Neal Street, Shaftesbury Avenue, W.C.2. Price 12s. 6d.

Chatsworth—A short history by Francis Thompson. Published by Country Life. Price 9s. 6d.

English Country Houses, by Christopher Hussey. Published by Country Life. Price 25s.

English Cathedrals, by John Harvey. Published by Cambridge University Press. Price 1s. net.

Housing Manual 1949, Technical Appendices, by Ministry of Works & Ministry of Local Government & Planning. Published by His Majesty's Stationery Office, London. Price 2s.

English Romanesque Sculpture 1066-1140, by George Zarnecki. Published by Alec Tivanti Ltd., 72, Charlotte Street, W.1. Price 7s. 6d.

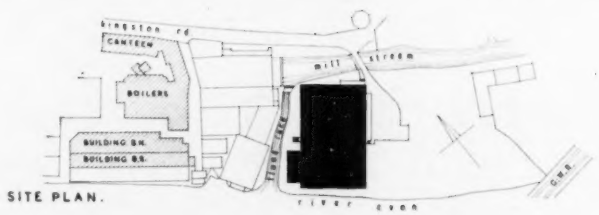
New Ways of Building, by Eric de Maré. Published by The Architectural Press. Price 30s.

The Building of England (two books) Nottinghamshire & Cornwall, by Nikolaus Pevsner. Published by Penguin Books. Price 3s. 6d. each.

Modern London, by Ian McCullum. Published by The Architectural Press, London. Price 3s. 6d.

Under-Pinning, Its Practice & Applications, by Edmund Astley Prentis & Lazarus White. Published by The Oxford University Press. Price 63s.

High Victorian Design, by Nikolaus Pevsner. Published by The Architectural Press. Price 12s. 6d. net.



SITE PLAN.

New factory building at Bradford-on-Avon

FOR MESSRS. GEORGE SPENCE, MOULTON & Co., Ltd.

THIS building comprises the second phase of a complete scheme of factory rebuilding, the first phase of which consisted of the Research Laboratories described and illustrated in the issue of *The Architect and Building News* dated June 16, 1950.

The greater portion of the existing factory buildings are below high flood level of the River Avon adjoining and it was therefore decided that this new building should be kept above high flood level and this consideration, together with the poor bearing capacity of the soil, necessitated a foundation of cast *in situ* reinforced concrete pressure piles arranged in groups of two under the point loads of the steel framework with reinforced concrete connecting beams over and a suspended working floor designed to carry a superimposed load of 2cwt a foot super.

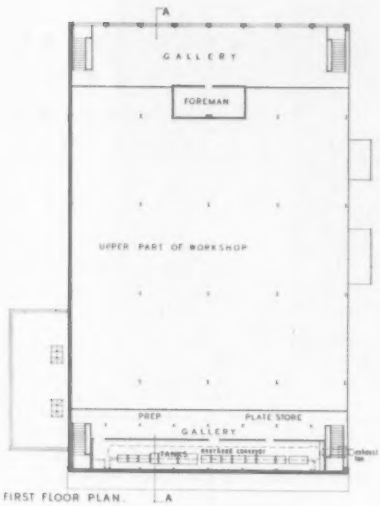
As far as planning is concerned, a large area of working space was required with minimum economical stanchion interruption, and with the addition of working galleries along the long sides of the building.

The building is approached across an existing bridge spanning a mill stream. This old stone arched bridge was found to be strong enough and was widened by superimposing a cantilevered reinforced concrete slab.

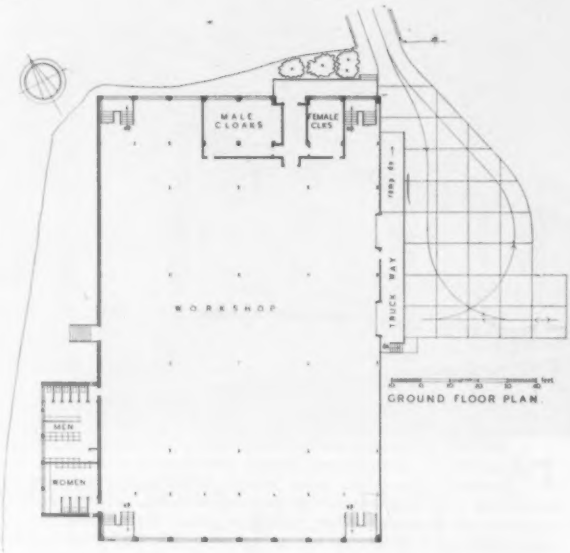
In order to harmonize with the stone district and for reasons of economy the external walls are in sand lime brickwork with reconstructed stone dressings and as the road or North-east elevation is seen from a higher level, the one roof pitch on this elevation is in Delabole slates on metal lathing. The remainder of the roof slopes are in double asbestos sheeting with aluminium foil and patent glazing to the north lights.

As an important consideration was the exclusion of sun from the building, the South-west gallery facing the river has no windows and is lit by top north light, whilst the area below the gallery has a projecting lenscrete canopy over the windows to keep out direct sun's rays.

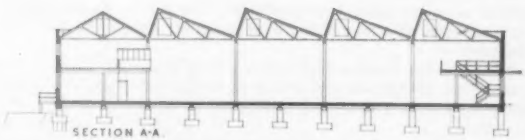
As it is desired to extend the building as soon as possible, the South-east



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.


SECTION A-A.

architects

SNAILUM, HUGGINS & LEFÈVRE, F./A.R.I.B.A.

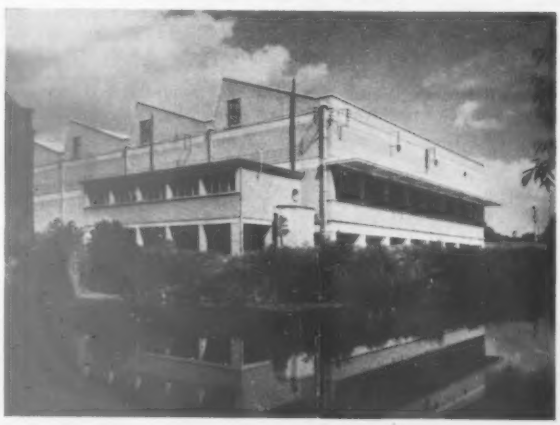
elevation is a temporary end wall of double asbestos insulated sheeting. This end has a ramped truck-way for Lister trucks combined with a loading deck.

The staff entry provides clocking space and cloakrooms and a separate lavatory block is built on to the building. Owing to the raised floor level, drainage had to be cast in iron suspended piping.

Heating is by means of high level steam operated unit fan heaters and controllable metal louvre ventilators are provided in gables at both ends of the building.

Clerk of Works: Mr. H. Helps, of the Company.

General Contractors: F. J. Amery & Sons, Ltd., Bath.



Heating and Hot Water Supply: G. Applegate & Sons, Trowbridge.

Electrical Installation: The Southern Electricity Board.

Piling: Piling & Construction Co., Ltd., West Croydon, Surrey.

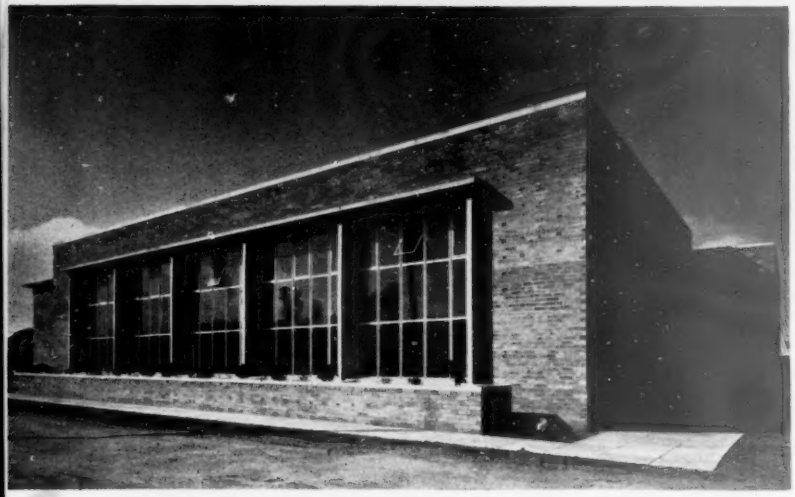
Suspended Floors: The Square Grip Reinforcement Co. (Bristol), Ltd.

Steelwork: Banister, Walton & Co., Ltd., Birmingham.

Bricks: Stonehenge Brick Co., Leighton Buzzard.

Wrought Ironwork: Ironside Engineering Co., Bristol.

Asbestos Sheeting: W. R. Davey & Son, Bristol.



INDUSTRIAL CANTEEN for Salopian Engineers, Ltd.

•

ARCHITECT:
LEONARD J. MULTON,
F.R.I.B.A.

THE building is partially steel framed, load bearing walls are 14in, other walls 11in cavity. All external walls are finished in 2½in golden russet facings. Terrazzo has been used for the chequer board panel in green and hopton-wood stone colours, at the side of the main entrance. All copings, string courses, canopies, boot lintels and windows surrounds are in precast White Hollington stone. The concrete mullions to the main canteen windows are faced with stone rendering to match. An interesting external feature is the free standing flower box 60ft long beneath the windows on the main facade.

The flat roof construction throughout is of precast concrete beams having large lanterns and a dome light. All roofs are surfaced with asphalte.

Internally all walls and ceilings are plastered. The service counter is faced with terrazzo on a 4in hollow tile backing. The top is constructed of timber inlaid with linoleum. Behind the service area a wall completely screens the kitchen from the canteen.

The floor finish in the Canteen and Private Dining Room is West African Mahogany wood blocks, elsewhere terrazzo or red quarry tiles. All services and wastes to kitchen equipment are in floor ducts.

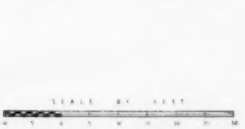
All cooking equipment is electric, including hot closet in service area, and electrically heated shelf is provided below the counter top.

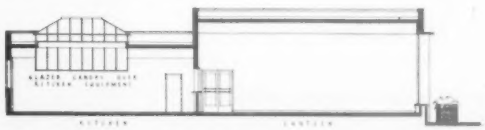
A large suspended glazed canopy is provided over the equipment in the kitchen, incorporating mechanical ventilation. This canopy and light is designed so that dirt collecting edges are eliminated.

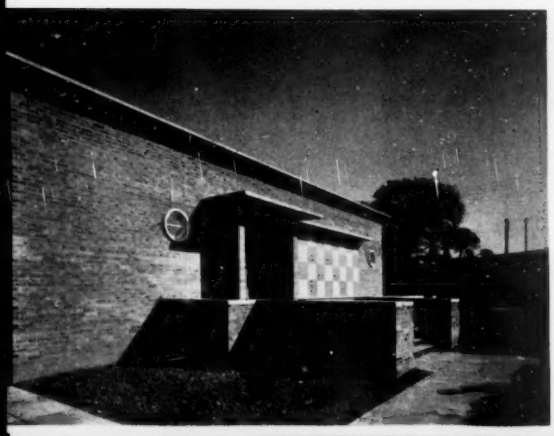
Heating is low pressure hot water to radiators and to pipes concealed under windows on main elevation. All pipes wherever possible and appropriate have been concealed in trenches or buried in wall cavities.

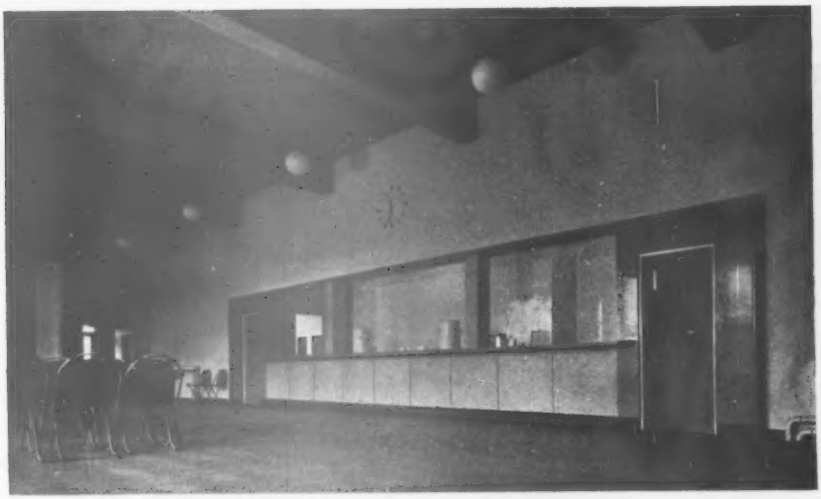
Provision has been made for a concealed loud speaker system with control at both ends of the hall to ensure clear reproduction.

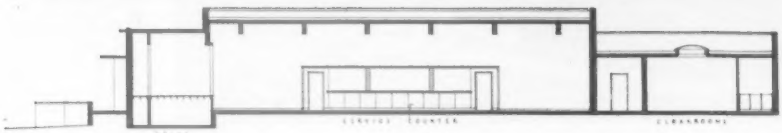
This canteen has been planned so that it may also serve as a Village Community Hall when the North Entrance is used, adjacent to which cloakrooms have been provided.

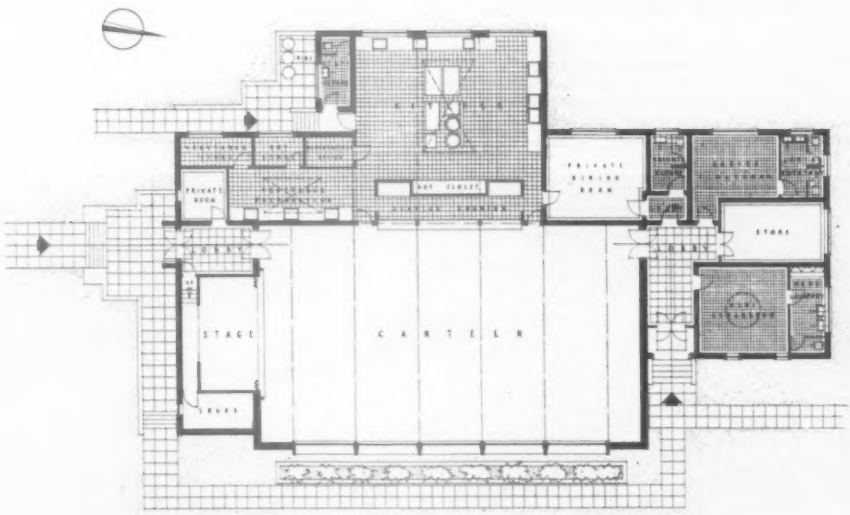










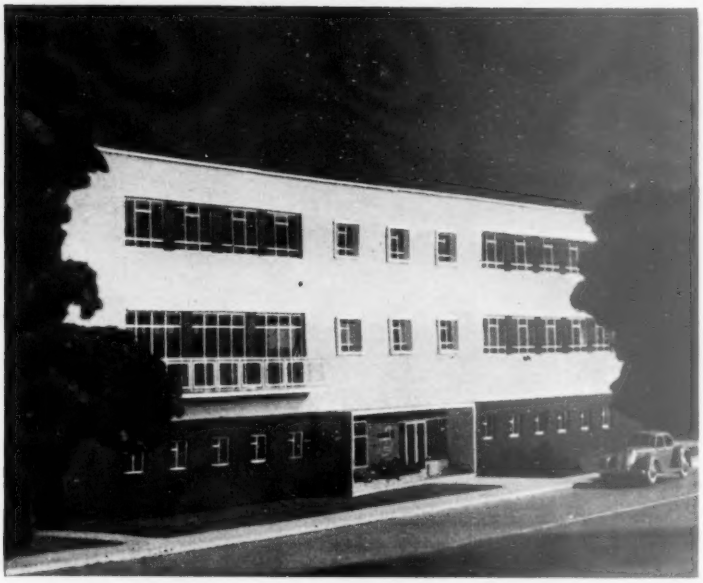


The building which is entirely free standing acts as a screen to the works buildings behind, gardens have been laid out on three sides and there is a car park at the rear. At a later date an Office block will be erected on the same building line designed on similar principles, which will further screen works development from the main road.

INDUSTRIAL CANTEEN FOR SALOPIAN ENGINEERS LTD. A MEMBER OF THE "OWEN ORGANISATION"

CONTRACTORS

Main Contractor : A. M. Griffiths & Son Ltd. ; Steelwork : Rubery Owen & Co. Ltd. ; Facing Bricks : Himley Brick Co. ; Purpose made metal window and lantern lights : J. Gibbs Ltd., West Bromwich Casement Co. Ltd. ; Precast roof beams : Concrete Ltd. ; Heating : Norris Warming Co. Ltd. ; Wood Block flooring : Hollis Bros. ; Ironmongery : K. S. Neale ; Precast Stonework : Empire Stone Co. Ltd. ; Sanitary goods : Shuker & Son (Shrewsbury) Ltd. ; Precast terrazzo lavatory partitions : Roman Mosaic Ltd. ; External terrazzo feature : Roman Mosaic Ltd. ; Kitchen Equipment : Radiation Ltd. ; Asphalting : Birmingham Asphalte & Paving Co. Ltd.



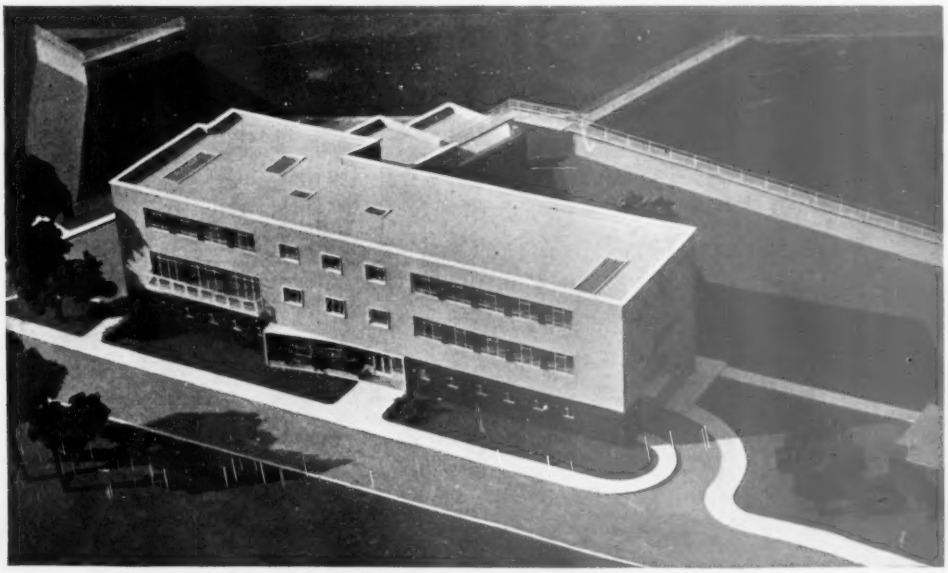
PROPOSED NEW OFFICES

Alderney Waterworks Bournemouth

WHEN the Bournemouth Gas and Water Company's gas undertaking was nationalized in May, 1949, it became necessary for the remaining portion of the composite company, the Water Undertaking, to seek adequate new accommodation for its activities.

It was decided that a new administrative building would be required to accommodate the principal officers of the Water Undertaking, the District Superintendent and his staff, general and correspondence offices, canteen facilities for 120 persons, lavatories, cloakrooms and stores. In addition, a garage and workshop for vehicles and equipment storage space would be needed together with increased laboratory accommodation for the continuous analysing and testing of the water supply.

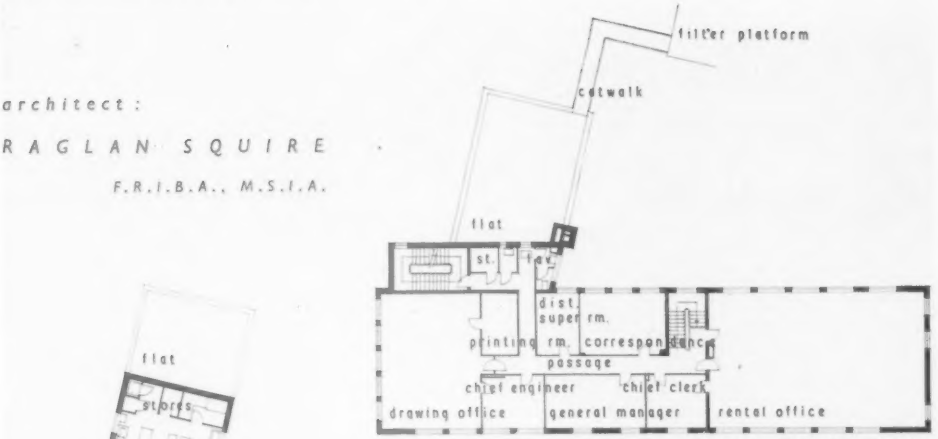
A flat site close to the existing water installations was chosen, on the outskirts of Bournemouth, readily accessible by road and the building is to be directly linked by a bridge with one of the reservoirs to facilitate rapid communication.



architect:

RAGLAN SQUIRE

F.R.I.B.A., M.S.I.A.



SECOND FLOOR PLAN

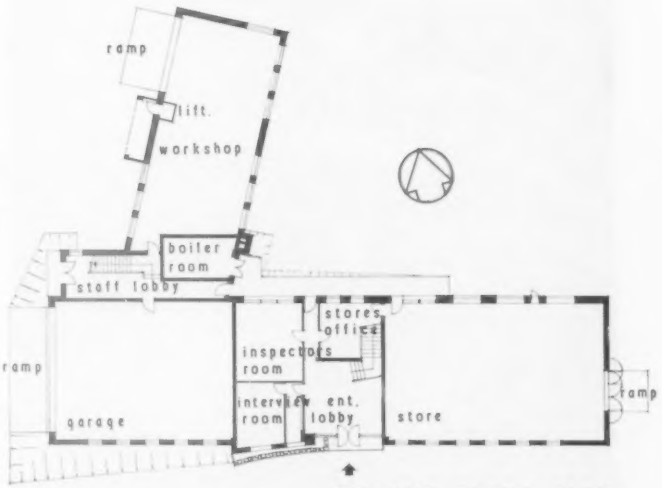
FIRST FLOOR PLAN

In the large offices and the laboratory, in the interests of flexibility, uninterrupted floor space was required. Consequently it was decided to adopt a system of floor construction, designed by F. J. Samuely, utilizing pre-stressed concrete beams and giving a clear span of 31 feet. Load-bearing brick walls, hollow above the first floor, support the pre-stressed beams between which rest, in turn, thin pre-cast concrete trough units, over the whole of which the remainder of the concrete floor is poured.

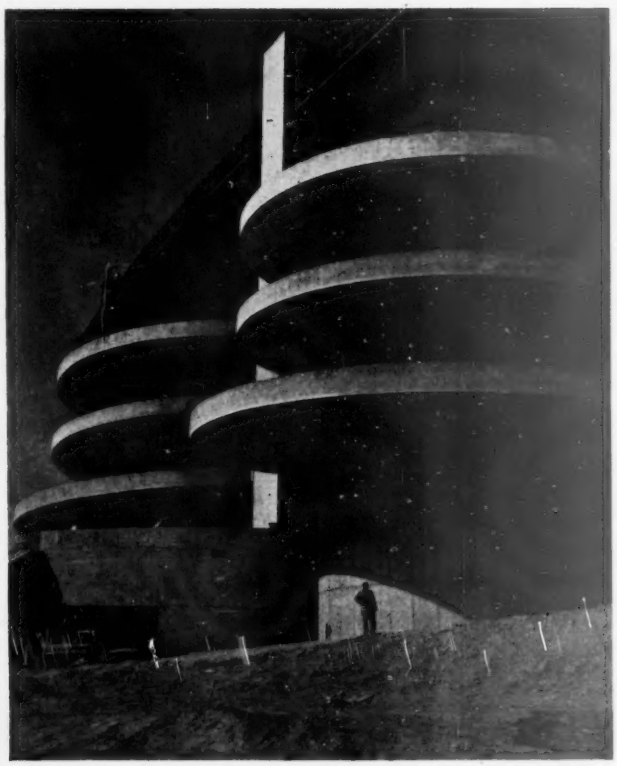
The building is to be heated by ceiling panel heating, executed by Norris Warming, the coils being embedded in the plaster suspended below the pre-stressed beams.

The external walls of the building, to first floor level, are to be faced with blue engineering bricks and the outer skin of the upper two floors is to be executed in a deep buff flint facing brick.

Pre-cast stone frames are to surround some windows and a portion of the external wall by the entrance is to be rendered dark red.



GROUND FLOOR PLAN



University of Seattle STADIUM

architects

GEORGE WELLINGTON STODDARD & ASSOCIATES

REINFORCED concrete and welded structural steel construction has been used for this stadium addition.

The 14,223 seats provided in the cantilevered balcony are in 59 rows under a cantilevered roof from which two press boxes are suspended. The structure was designed as a segmented arc of eight bays each 54ft 9½in long at the rear and 49ft 3⅛in across the front to point all spectators toward the centre of the field. Access to the stands is by two reinforced concrete spiral ramps at the rear of the structure, cantilevered from the reinforced concrete cylinders around which they wind. The cylinders with their ramps are free standing, except for one column which is an integral part of the main support structure. Outside diameter of each cylinder is 58ft. The roof of the structure is welded steel with built-up roofing.

Two steel frame press boxes with ¼in cement-asbestos board walls are suspended from the roof. These are served by a lift located between the cylinders. Its 150ft high shaft has doors at every tunnel level. Interior partitions in the main support structure are concrete blocks.

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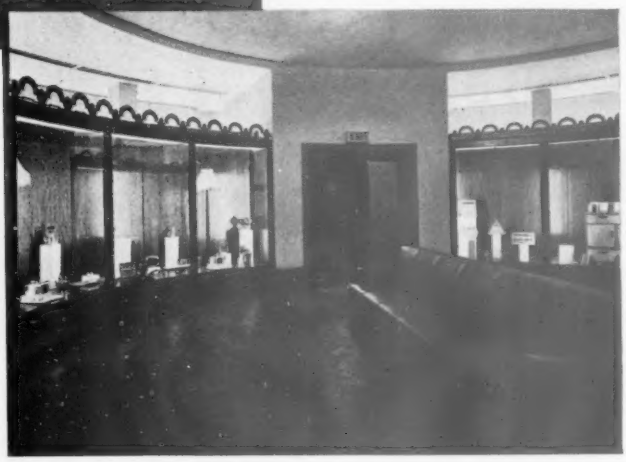

INTERNAL and Lobby Showcases in extruded bronze with cast bronze crestings, Walnut Window Enclosures, Information Desk and Central Display Feature form part of the Sage contract for the new Showrooms at Electricity House, Colston Avenue, Bristol, for the general contractors, William Cowlin & Son Ltd., to the designs of the Architects:-
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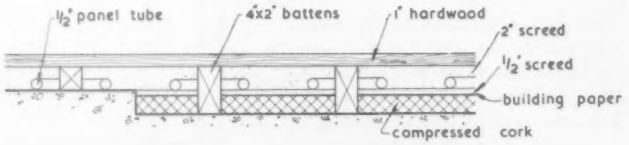
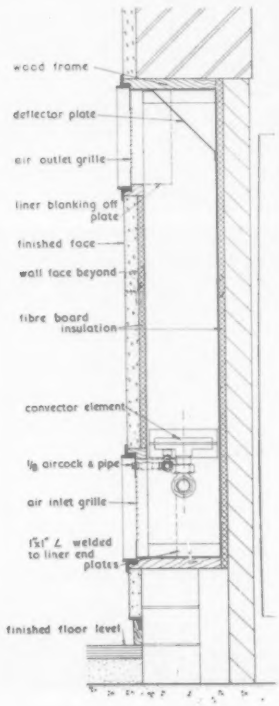
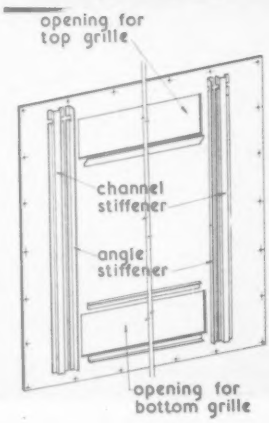
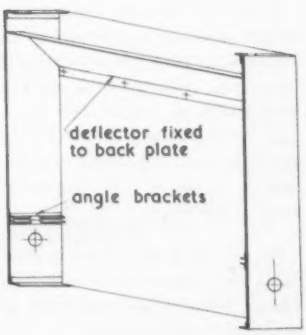


Top right, the floor heating system and, right and below, details of the wall heating panels in the foyers. This heating is complementary to the plenum system described overleaf.

Also described in this article is the heating and ventilation of the restaurant.







F O Y E R S

The entrance foyers and stair halls are surrounded by large areas of glass and, of course, are open to the main staircases. Their position in relation to the auditorium and restaurant is shown in the accompanying diagrammatic section. On plan they extend the full width of the building.

There is no carpeting in this area, the central part of which is marble paved, while the side foyers have areas of hardwood strip flooring.

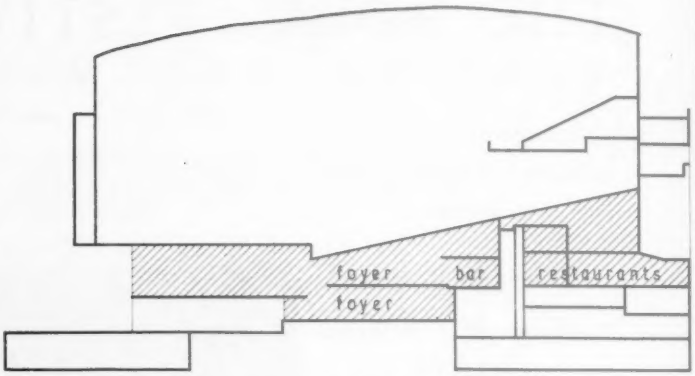
A separate plenum plant, similar in characteristics but smaller than the auditorium plants, serves the central foyers through a spinal duct. This duct runs from the plant in the basement, turns vertically upward behind the foyer bar (see section) and then runs centrally down the foyer ceiling, which is raked to the angle of the auditorium floor above it. The outlet grilles are placed at regular intervals down either side of this duct, the air being pushed out between horizontal ceiling fins as shown in the photograph right, top.

The foyer ceiling flattens beneath the orchestra floor and at this point the spine duct branches, in T shape on plan, to deliver air over the mezzanine part of the foyer. See picture bottom right.

In the flanking foyers—a detail of which is given on the preceding page—tubular heating is installed beneath the hardwood flooring.

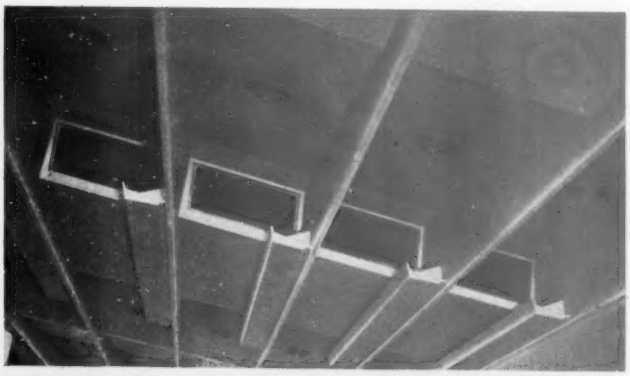
In the walls of these areas specially designed panels are recessed flush with the wall surfaces. These shallow prefabricated casings have intake grilles at the base through which air is drawn over heating pipes and expelled at grilles in the upper part of the casing. The casings are arranged singly on staircases or in vertical groups as shown on page 293.

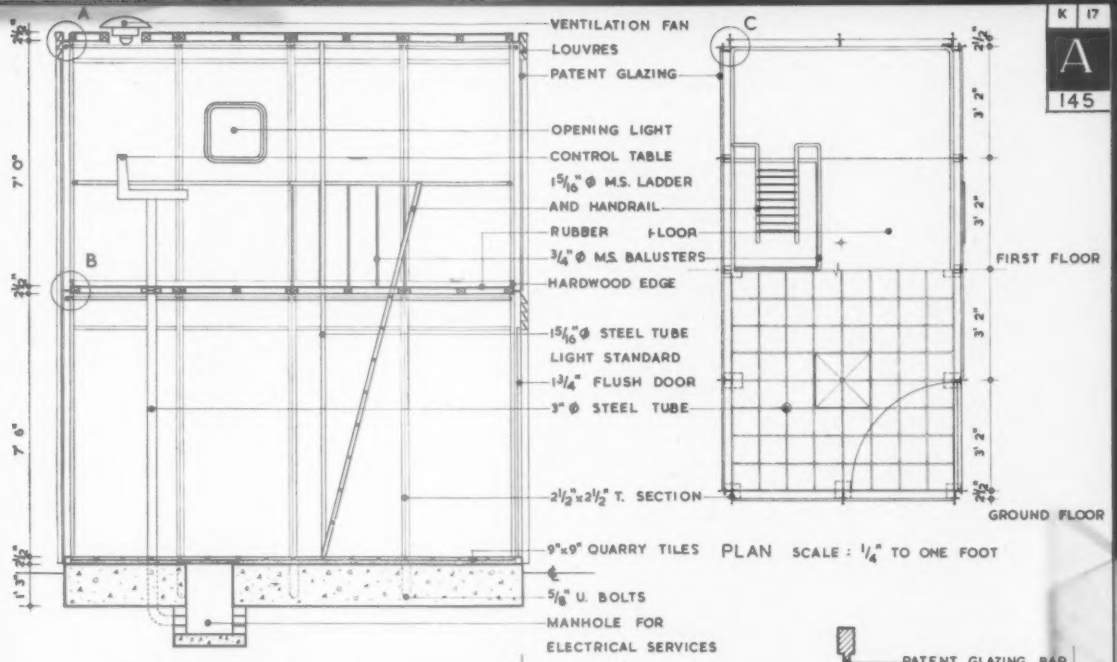
At a later date a small hall is to be added where the mezzanine foyer terminates. Separate ventilation and heating will be installed to serve the additions.



The diagrammatic section above shows the areas of heating and ventilation dealt with in this article.

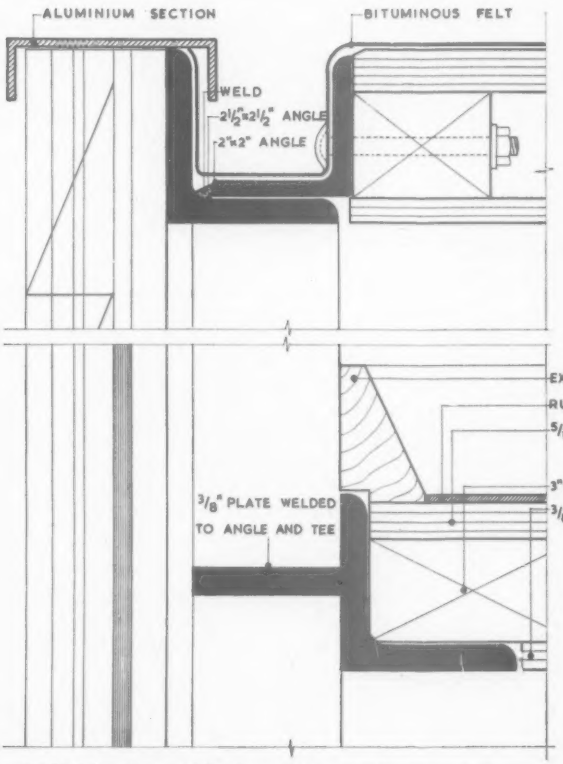
Separate plenum plants serve the foyers and the restaurant. Both areas are equipped with complementary heating equipment as described in the text.



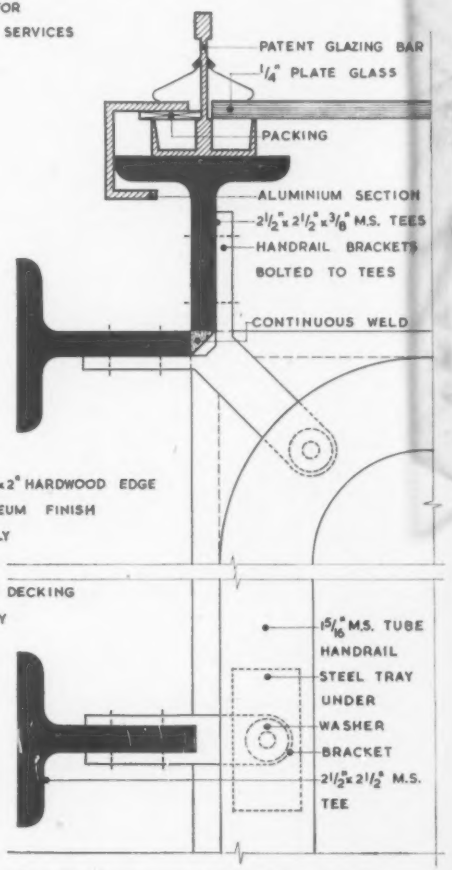


SECTION SCALE : 1/4" TO ONE FOOT

PLAN SCALE : 1/4" TO ONE FOOT



DETAILS AT A AND B SCALE : HALF FULL SIZE

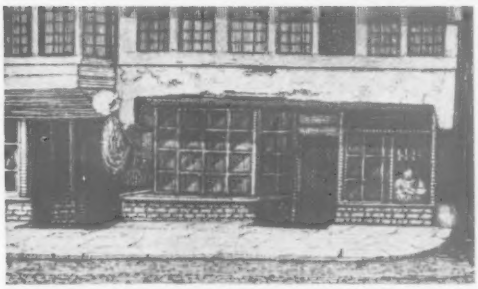


PLAN AT C SCALE : HALF FULL SIZE

BELVEDERE ROAD CONTROL POINT: UPSTREAM SECTION F.O.B.

ARCHITECTS CO-OPERATIVE PARTNERSHIP

HIDE AND SEEK SHOPPING OF THE PAST



Houses and shops in King Street, Westminster. Early seventeenth century.

The Queen's Nursery, Golden Lane, Barbican. Late seventeenth century.

From J. T. Smith's Antiquities of London.

AND THE OPEN INVITATION OF TO-DAY

Dolcis Shoe Company, Leicester Square, London. Architect: ELLIS E. SOMAKE, F.R.I.B.A. *(Staff Architect, Dolcis Shoe Co.) Shopfitters:* A. DAVIES & CO. *(Shopfitters) Ltd., London, W.3*

A door is a window as well, when the potential customers of a shopkeeper can look straight through it into the showrooms or the shop beyond. This is the unchanging invitation given by large doors of sparkling, transparent "ARMOURPLATE" glass that swing back at a touch to admit customers. The door to the shop is no longer the barrier that it used to be in the past.

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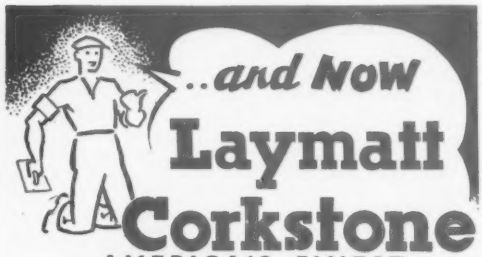

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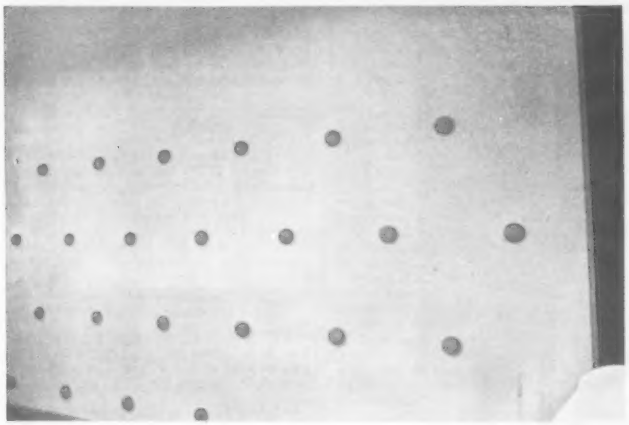
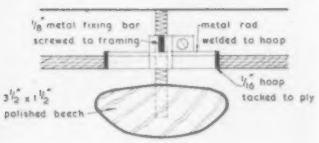
CHAPMAN & SON, LTD., 88-89 Tamworth Road, Croydon, Surrey.
CORNISH MINES SUPPLIES LTD., West Hill, St. Austell, Cornwall.
DEVON TRADING CO. LTD., Queen St., Station Yard, Exeter, Devon.
JOHN DEWHURST, Fylde Road, Preston, Lancs.
H. J. HOLT LTD., Holdenhurst Road, Bournemouth, Hants.
HENRY MOAT & SONS LTD., Atom House, 67-69 Lowther St., Carlisle.
HENRY MOAT & SONS LTD., Atom House, Rutherford Street, Newcastle-on-Tyne, 1.
SHARPE & FISHER LTD., Pittville Street, Cheltenham.
B. H. SMITH & SONS LTD., Acocks Green, Birmingham, 27.
G. R. WATSON & SON, Leven, near Hull, Yorkshire.



RESTAURANT

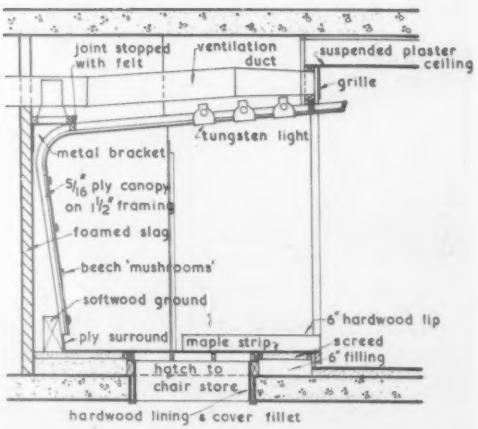
The plenum system serving the restaurant supplies warmed air through grilles at ceiling level—as shown in the photograph, top left, and in the section, bottom right. The plenum system operates in conjunction with heating units in the cills and transoms of the main windows and specially designed radiator units on the balcony. These heating units are illustrated on the next page. An interesting feature is the ventilation of the band recess.

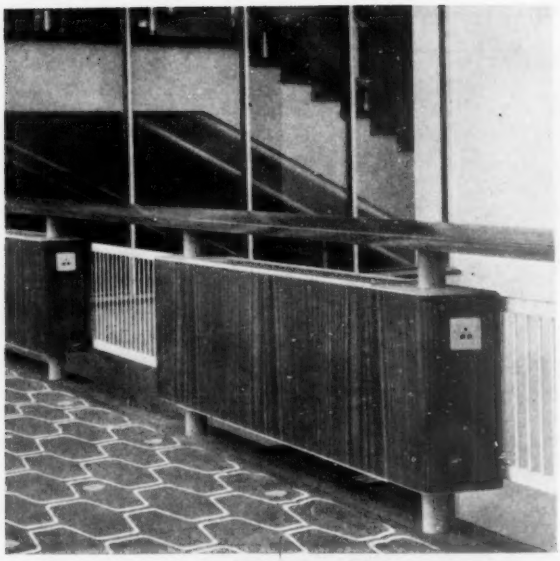
As shown in the section below there is a void behind the plywood canopy to which air is supplied from a branch of the main plenum supply duct. This void is sealed, the only outlets being through adjustable mushroom-shaped knobs which form a decorative pattern on the back wall of the canopy as shown in the two photographs.



BAND RECESS

The adjustable, polished beech, mushroom-shaped knobs which provide auxiliary ventilation for the band recess are each 3½in diameter. The back of each knob is shaped to fit exactly a hole in the plywood canopy. These holes are framed with 1/16in metal hoops tacked to the plywood. A fixing bar to hold the screw barrel for each mushroom screw is secured to the framing for the plywood. See detail section. Each mushroom knob is individually adjustable allowing accurate control of ventilation. The air extracts from the restaurant are in the soffits of the main window heads. These are illustrated overleaf.

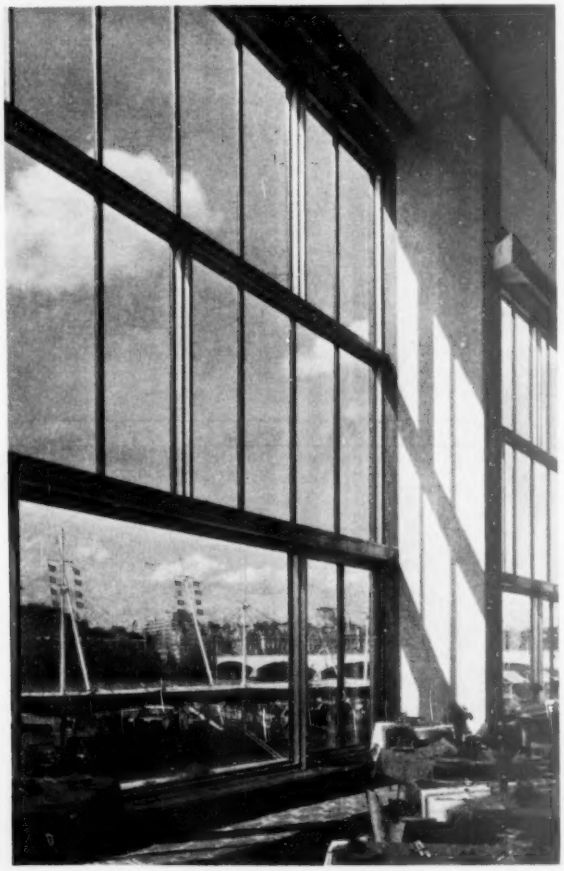


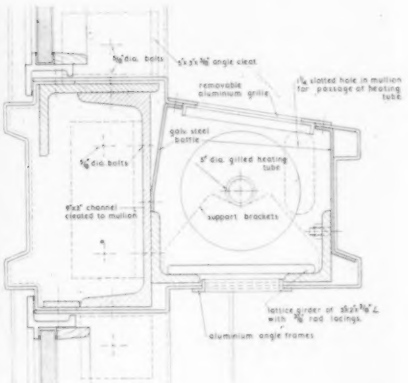


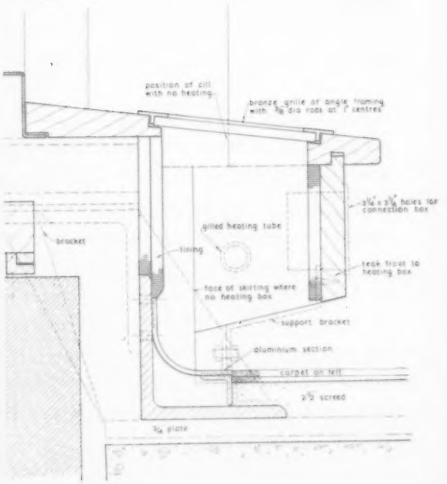
RESTAURANT

Heating units on the upper level of the restaurant (left) are designed as an integral part of the balcony rail. The pipes supplying the heating tubes are contained in the legs of each unit. Air is drawn in through a bottom grille and expelled at the top grille. The veneered exterior surrounds a metal container for the heating tubes.

At the windows (below, left) heating tubes are installed at ground level and at transom level as shown in the details below. The cold from the window area is thus counteracted. Air extracts are incorporated at the window heads where the grilles admit used air to ducts in which extract fans are fitted and discharge the air through louvred openings on the front elevation of the building.







News of the BUILDING INDUSTRY

THE MERMAID THEATRE now completed in a hall attached to a private house in St. Johns Wood—at 43a, Acacia Road, has a portable stage which, apart from the versatility and ingenuity shown in its design, has a quality which Elizabethan actors would have welcomed. In view of the current interest in fresh forms of theatre design, this little theatre has much from which architects can gain information. The platform stage projects into the intimate auditorium and there is a small balcony.

*

CANADIAN RED CEDARWOOD SHINGLES now free from licence restrictions can be bought without formalities.

W. H. Colt (London), Ltd., announce that contracts can now be undertaken by the firm's expert fixers anywhere in Great Britain. Supplies are available for immediate delivery.

*

SYNTHETIC RESIN GLUES and their wide range of uses—particularly in woodworking industries—are now displayed in a new exhibition room opened by Aero Research, Ltd., at Duxford, Cambridge.

*

WELDING OF BEAM AND COLUMN CONNECTIONS in steel building is the subject of a report just issued by the British Welding Research Association. The report gives examples of connections which are recommended as efficient and economical.

*

THE MINISTER OF WORKS has authorized an increase of 1s 6d per ton in the price throughout Great Britain and Northern Ireland of Ordinary Portland and Rapid Hardening Cement.

The general price advance is combined with further minor and local regradings of prices. The additional premium for Rapid Hardening Cement is advanced by 2s per ton. These increases came into effect on September 3.

*

RAPID TRIGONOMETRICAL CALCULATIONS can be made on a new disc-type indicator which is now in production by The Andremath Computor Co.

For drawing offices, workshops, etc., where it is frequently necessary to calculate angles from known lengths and vice versa, this indicator which bears on it instructions for operation, should be invaluable for architectural and engineering draughtsman. The indicator is 5in diameter and packs in a flat cardboard wallet. Price 18s post free.

*

HAWKSLEY CONSTRUCTIONS have extended the range of their single-storey buildings to include spans of 24ft. 32ft and 40ft with ceiling heights of 8ft, 9ft and 11ft. A descriptive leaflet is available on request at home or abroad.

*

PHOTOGRAPHS FOR PRESS PUBLICATION are the subject of good advice contained in a questionnaire being sent out by the B.I.F. To exhibitors in exhibitions and others who would like press publicity for their products the importance of submitting good pictures cannot be overstressed. The B.I.F. advice is good advice.

*

A NEW STANDARD FORM for recording corrosion failures of buried pipes has been prepared by the British Iron and Steel Research Association's Sub-Committee on the Corrosion of Buried Metals. It is available from Mr. E. E. White, B.I.S.R.A., 140 Battersea Park Road, London, S.W.11, and is to be returned when completed to the Chemical Research Laboratory of the D.S.I.R., Teddington. The Sub-Committee has taken over from the Research Co-ordination Committee of the Institution of Water Engineers its work on the corrosion of buried pipe lines, and the new form incorporates the changes which the Institution's experience has shown to be desirable.

The seriousness of the problem of underground corrosion, which has been estimated to cost the country £5,000,000 per year, was recognised in the report of the Ministry of Health's Departmental Committee last year, where the importance of full and accurate records of all cases of underground corrosion was emphasised. It is hoped that the new form will be widely used to report new cases of underground corrosion, especially in pipes laid since 1920.

*

A FURTHER COURSE OF LECTURES on the "Design of Welded Structures" is to be given in London for Structural Designers and Draughtsmen already familiar with structural design methods.

The lectures are being held on Tuesdays and Thursdays from 4.30 p.m. to 6 p.m. commencing October 16, 1951, and continuing until December 4. Provision is made during the Course for practical demonstrations of arc welding to be given on one evening.

Full information on the Course can be obtained from the Constructional Design Department of the Quasi-Arc Co., Ltd.

*

THE COST INCREASE since the original estimate for extensions to Bradford Technical College is at least £15,000 according to the Bradford City Architect. The original estimate was £135,000 plus £23,000 for furnishings. The revised estimate of £150,000 for building work alone has been accepted and tenders are recommended for approval.

*

PRESTRESSED CONCRETE MANUAL is issued in a first edition by Stressed Concrete Design. Limited. The booklet contains many illustrations and line drawings of various aspects of prestressing, including curved work.

*

THE FIRST NEW FURNITURE FACTORY to be built since the war in the London area is now occupied by S. Hille & Co., Ltd., at Old Romford Road, Hainault.

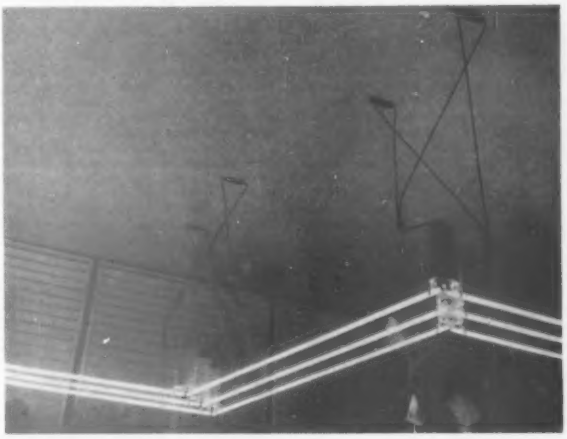
*

JOHN McLEAN & SONS, Ltd., is the new title of the firm of civil and engineering contractors, of Coven, Wolverhampton. previously known as John McLean (Builders), Ltd

*

ELECTRICAL MANUFACTURERS are invited to exhibit at the first Electrical Engineers' Exhibition in the Royal Horticultural New Hall, Westminster, on March 28 and 29, 1952.

Applications should be sent to P. A. Thorogood, M.A.S.E.E., 35, Gibbs Green, Edgware, Middlesex. B.E.A.M.A. have considered the Exhibition "open" to their members.



Suspended cold-cathode tubing over the counters of the lingerie shop of S. Weiss & Co. Ltd. in Shaftesbury Avenue. The ceiling is 12ft high, but a height of 8ft 6in was necessary to provide 30 lumens per sq ft. The runs of tubing are virtually continuous. The suspensions are of ¼in solid rod coloured red. The architect was Ernö Goldfinger. The Osram tubes were supplied by the General Electric Co., Ltd.

GOOD, BAD OR INDIFFERENT?

Mr. Foreman's articles are omitted from this issue and from next week's. The articles will be resumed in the *Architect and Building News* of October 4, 1951.

GOOD PRACTICE IN DOMESTIC DRAINAGE

by F. J. Crabb, B.Eng., M.I.C.E., F.R.San.I.

INTRODUCTION

This article is based on material prepared for the Ministry of Works series of winter lectures. The author has recently been appointed to explain the field research scheme into drainage which, as reported in the "Architect and Building News" 2/8/51, page 133, is being planned by a joint committee representing the Institution of Sanitary Engineers, the Sanitary Inspectors Association, the Institute of Plumbers and the Building Research Station.

The article will be published in two parts sub-divided as in the Codes of Practice Report under four main heads: (1) Design and Specification. (2) Construction. (3) Testing. (4) Cesspools and small treatment works.

The subject covered comprises all the underground drainage work from the building to the public sewer. Various published documents, particularly the Second Report of the Plumbing Committee of the Building Research Board and British Standard Codes of Practice, are discussed in their relation to the subject.

The main part of the paper is made up of statements of accepted methods of design and construction of drainage work as recommended by the relevant Codes of Practice, in the drafting of which the author has been closely concerned.

The importance is stressed of obtaining full preliminary information before designing the drainage system; also of ensuring that the materials specified are of the appropriate quality for the job.

GOOD PRACTICE

In every profession or trade certain people have made a special study of some particular branch of their work, and their combined knowledge and experience comprises what is known as "good practice." Drainage is not seen, and therefore the economic side of good practice in drainage is of great importance.

DESIGN AND SPECIFICATION

Preliminary

Before the first visible sign of drainage work appears on a building site the designer of the scheme—be he Architect or Sanitary Engineer—should make extensive enquiries—the extent of which will, of course, depend on the size of the scheme—but should include at least:—

(a) The requirements of the Local Authority's byelaws.

(b) Full information as to the nearest public sewer—its position and level; the material of which it is made and its condition; whether the system of sewerage is combined (soil, waste, and surface water in the same pipes), separate (soil and waste in one set of pipes, surface water in another), or partially separate (some surface water taken in foul drains).

(c) Information as to subsoil conditions, such as the physical and chemical nature of the ground, the levels of subsoil water, and records of flood levels.

(d) The location and nature of any other services in the vicinity of the proposed work (such as gas, electricity, telephones, etc.).

(e) Any special legal difficulties, particularly if any part of the proposed work will be carried out on or under land belonging to neighbouring owners.

Materials

The best way of ensuring that all the materials used are the most suitable for their purpose, both in quality and design, is to require that where possible they shall comply with one of the relevant British Standards. The range of British Standards covers practically all the items used in drainage work. The most important component of drainage work is pipes, and salt-glazed ware pipes are the most commonly used. These are covered by B.S.65 in which two classes of pipes are specified:—

(1) British Standard Pipes, of which 5% may be required to undergo the hydraulic test.

(2) British Standard Tested Pipes, of which every pipe must be hydraulically tested.

There is another class of glazed ware pipes, however, which may be slightly outside the dimensional limits of B.S.65, but are perfectly sound pipes. These may now be ordered as Best Commercial Quality, and will be marked B.C.Q.

"Seconds" quality pipes, which are marked with a black hand, may be used for surface water at the discretion of the engineer.

B.S.556 deals with concrete pipes, which are often used for drainage work, of 6in diam. and over, and form a satisfactory alternative to salt-glazed ware in suitable soils. The spigot and socket type should always be used for foul drains and the ogee-jointed type may be used for surface water. If the soil contains sulphates which may attack concrete, the pipes may be made with a sulphate-resisting cement at a small extra cost.

Cast iron pipes—which should be in accordance with B.S.78 if they are likely to be under water pressure, or B.S.437 if there can be no head of water on them—also have their use in the drainage system, particularly where the ground is bad or unstable, in lines which have to be laid under buildings, or where they are suspended in basements of large buildings.

Layout

At almost every step in the design of a drainage scheme "economy with efficiency" must be considered. It is essential therefore that the drainage problems should be investigated and discussed by all concerned at a very early stage, as a comparatively small adjustment to the building layout may enable quite large economies to be effected in the cost of the drainage work.

The layout should be as direct as possible. Changes of direction cost more and may encourage blockages.

Lines of drains which are longer than is necessary will of course cost more in excavation and pipelaying due merely to their extra length. It must also be remembered that generally speaking the longer a pipe line is the deeper it is, and excavation and manhole costs increase rapidly with depth.

Pipe sizes

The correct sizes of pipes for drains serving two or three houses are difficult to arrive at on a hydraulic basis relating to continuous flow, as the flows are small and usually intermittent. The governing factor is the prevention of blockages. It is seldom necessary to use larger pipes than 4-inch in normal house drainage, except when a number of houses are connected to a private sewer, in which case it is preferable to make the private sewer 6 inches, with the object of confining any blockages to the individual house branches.

If the flows are large enough to warrant design of pipe sizes on a hydraulic basis, a useful general rule is to allow:—

Domestic wastes—2/3 cub ft per min. per 100 persons.

Surface water—1½ inches per hour of rainfall intensity over the impervious areas.

Gradients

The ideal gradient should be steep enough for the flow in the pipe to prevent solid matter from building up blockages—i.e., "self-cleansing velocity." But in branch mains from houses the flow is intermittent, the solids are deposited on the invert of the pipe at intervals (after each flush) and gradients cannot be calculated on any exact basis. Experience has shown, however, that gradients up to 1 in 50 for 4-inch pipes and 1 in 75 for 6-inch pipes do appear to be sufficient to prevent the build-up of solids. It is not only the gradient but the *depth of flow* which affects the clearance of sewage solids, as they are moved partly by flotation. The practice, therefore, of using a larger diameter pipe solely in order to lay it at a flatter gradient according to rule is very much to be deprecated as it gives a shallower flow and so tends to increase the danger of blockage.

For a steady flow, the gradients should give a minimum velocity of 2.5 feet per second (preferably about 3 f.p.s.) when flowing one-quarter depth, which is usually considered to be a self-cleansing velocity. The following table shows the relation of quantity of flow to pipe gradient and diameter.

Quantity of flow (cu ft/min)	Gradient	Diameter of pipe in which self-cleansing velocity is obtained
2	1 in 40	4in
3	50	4in
4	60	4in
6	80	4 or 6in
8	100	4 or 6in
10	120	4 or 6 or 9in
15	160	6 or 9in
20	185	6 or 9 or 12in
25	220	6 or 9 or 12in

In the above table the depths of flow will vary—e.g., for a flow of 10 cu ft per min the 6in or 9in would be less full than the 4in, but the velocity of 2.5 f.p.s. would be constant if laid at 1 in 120. (The total capacity of the 9in at 1 in 120 would

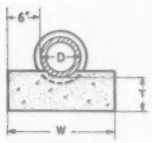


FIG. 1. BEDDING

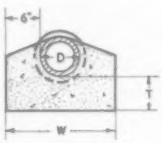


FIG. 2. HAUNCHING

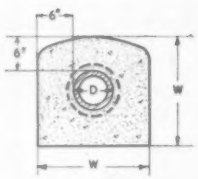


FIG. 3. SURROUND

W — D + 12" (WHERE D IS THE EXTERNAL DIAMETER OF THE PIPE.)

T = { 4" FOR PIPES UNDER 6" IN DIAMETER
6" " " 6" IN DIAMETER & OVER

Depth of barrel below ground	Type of support or protection needed					
	In headings	Under buildings	Within 20ft of any permanent building	House drain between 20 and 50ft from any permanent building	Under roads	In other situations
Up to 4ft ...	None	Surround	Surround	Surround	Surround	Surround
4 to 14ft ...	Surround	Surround	Haunch	Bed	Haunch	None
14 to 20ft ...	Surround	Surround	Haunch	Haunch	Haunch	Haunch
Over 20ft ...	Surround	Surround	Surround	Surround	Surround	Surround

be 98.3 cu ft per min, but the velocity would then be 3.7 f.p.s.).

Concrete support and protection

From the economical standpoint the provision of concrete support and protection to pipes is important. In this connection the Plumbing Committee in their Report have said: "It is impossible at present to specify the exact conditions under which a glazedware pipe can or cannot be bedded directly on the ground without risk of settlement sufficient to cause fracture. Reliance has to be placed on practical experience, . . . inferior laying and jointing of pipes is not redeemed by concrete support, and better attention to supervision, and the employment of proper skill in laying directly on the ground, may give better results at lower cost." The following normal requirements for protection of glazedware pipes are based on the present regulations of the Ministry of Health.

Drain or sewer lines should not run near growing trees, as much damage may be done by their roots penetrating the joints. If the siting cannot be amended so as to be well clear of trees, the pipes should always be surrounded with concrete. All bends should be surrounded with concrete, and junctions (both the main and the branch portion) should be bedded on concrete. For protection against injury from digging, etc., the minimum distance from ground level to the top of the collar should be 18 inches.

Access

The Plumbing Committee in their Domestic Drainage Report, are of the opinion that "if drains are properly designed and constructed, stoppages, are rare, and that manholes are called for only at certain critical points in the system." Elsewhere it is, in their view, "preferable to take the slender chance of a stoppage (digging out if necessary) rather than burden a scheme with manholes which may never be used and which in themselves may be the cause of stoppages." This opinion has been the cause of considerable discussion since the publication of the Report, and the Codes of Practice Committee have put their views as follows:—

"Means of access to drains and sewers should be reduced to the minimum necessary for each section to be separately tested, cleaned and rodded."

The maximum distance apart of manholes on straight runs should be about 300ft. The size of a manhole must be sufficient to enable a man to operate drain rods, or to do repair work in the manhole itself, if necessary.

Wherever practicable, the soffit of a branch in a manhole should not be below the soffit of the main pipe on the upstream side. Step irons (to B.S.1247) should be built in the wall every fourth course—or at 12in vertical intervals. The two vertical lines of step irons should be 9in apart, the top step being 18in below the cover, and the bottom not more than 12in above the benching.

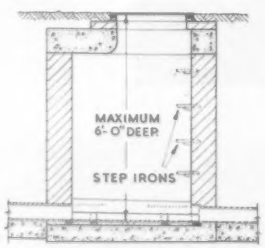
Ventilation

The ventilation of a house drainage system will usually be adequately carried out by means of the soil stacks on each house, *where there is no interceptor* on the house drains. The omission of an interceptor is recommended by the Code of Practice in all normal circumstances, but where special conditions exist (such as connection to an old, inefficient and unusually foul sewer) in which an interceptor is advisable, the drain must be ventilated, preferably by high vents near the head of the drain and near the interceptor manhole. A high vent-pipe should terminate above the level of the eaves or flat roof, and not less than 3ft above the head of any window within a horizontal distance of 10ft. An interceptor manhole should normally be ventilated by means of a 4in pipe.

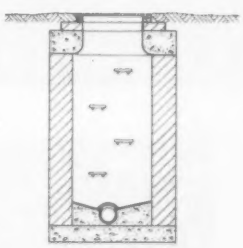
(To be continued)

*

The Illustrations are reproduced by permission of the Council for Codes of Practice from Code 301 (1950) "*Building Drainage.*" *Copies of the code can be obtained from the British Standards Institution,* 24 *Victoria Street, London, S.W.*1.



SECTION A-A



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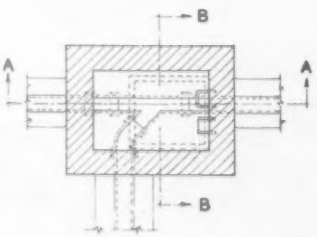
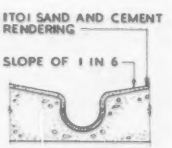


PLAN



DETAIL OF BENCHING

GRAYS INN HALL RESTORATION

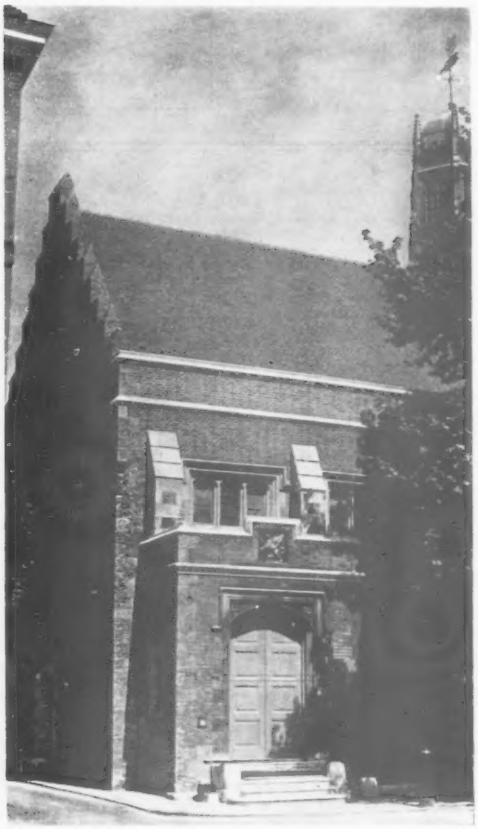
Architect: Edward Maufe

R.A., Hon.LL.D., F.R.I.B.A.

Restoration of Grays Inn Hall is now near completion. These pictures show, right, the entrance. The tree at present masks most of this facade and might be cut down.

Below, a view looking up into the lantern showing the double gold burnished Griffin presented to the Hon. Society by Mr. Edward Maufe. The Griffin is on a sable field with red tongue and claws.

The Hall is to be opened on December 5 by "Master" Churchill.



CONTRACT • NEWS •

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

BUILDING

OPEN

***BURTON-ON-TRENT B.C.** (a) Hillside Secondary Modern School (Part 2). (b) Borough Surveyor. (c) 3gns. (d) Sept. 26. (e) 10 a.m., Oct. 24. See page 33.

* * *

***STRATFORD-ON-AVON B.C.** (a) 25 houses, Redlands Housing Estate. (b) Borough Engineer, Municipal Offices. (c) 2gns. (e) Noon, Oct. 1. See page 33.

* * *

LOFTUS U.D.C. (a) 140 houses, Mars Farm Estate. (b) C. D. Taylor, Chartered Architect, 41, Baxtergate, Whitby, Yorks.

* * *

THE CONTAINER RECLAMATION CO., LTD. (a) 30,000 sq ft factory at Farnborough. (b) The Container Reclamation Co., Ltd., 82-94, Seymour Place, London, W.1. Quantities in course of preparation. Tenders to be invited in a few days. The Architect is E. D. Mills, F.R.I.B.A.

* * *

BERKSHIRE C.C. (a) Additions and alterations at King Alfred's Grammar School, Wantage. (b) County Architect, Wilton House, Parkside Road, Reading. (c) 2gns. (e) Sept. 20.

* * *

BRAUGHING R.C. (a) 6 houses, Green Tue, Much Hadham. (b) Council's Clerk, 2, Hockerill Street, Bishop's Stortford. (d) Sept. 17.

* * *

BRIGHTON B.C. (a) Disinfestation and cleansing centre, Hollingdean Road. (b) Borough Engineer, 26-30, Kings Road. (c) 2gns. (e) Oct. 4.

* * *

CLACTON U.C. (a) Public convenience, High Street Car Park. (b) Surveyor's Office, Town Hall. (c) 2gns. (e) Sept. 17.

* * *

CUMBERLAND C.C. (a) Work in connection with Cockermouth Fire Station, Cumberland and Wigton Fire Station, Cumberland. (b) County Architect, 15, Portland Square, Carlisle. (e) Sept. 22.

* * *

EAST RIDING C.C. (a) Site levelling, concrete foundations and drainage work at Cottingham County Secondary School. (b) County Architect, County Hall, Beverley. (c) 2gns. (e) Sept. 28.

* * *

ESSEX C.C. (a) Adaptation as residential special school of "Hassbury," Bishop's Stortford. (Approx. value of contract £17,700.) (b) County Architect, County Hall, Chelmsford. (d) Sept. 22.

* * *

FAILSWORTH U.C. (a) Contract No. 1, 3 blocks of 4 houses and 1 pair of houses. Contract No. 2, 2 blocks of 4 houses and 3 pairs of houses on the Greaves Avenue Extension, Propps Hall Estate. (b) Engineer and Surveyor, Town Hall, Oldham Road. (c) 2gns each contract. (e) Oct. 11.

* * *

GLOSSOP B.C. (a) 36 houses and 16 flats on the Acre Street site. (b) Messrs. John E. Beardshaw and Partner, 186, Oxford Road, Manchester, 13. (c) 5gns. (e) Sept.

GUILDFORD R.C. (a) Contract No. 2, 38 dwellings at Longacre Ash. (b) Engineer and Surveyor, Millmead House. (c) 8gns. (e) Oct. 3.

* * *

GUILDFORD R.C. (a) Contract No. 1, 18 dwellings at Longacre Ash. (b) Engineer and Surveyor, Millmead House. (c) 4gns. (e) Oct. 3.

* * *

GUILDFORD R.C. (a) 16 dwellings at Sandmore, Send. (b) Engineer and Surveyor, Millmead House. (c) 4gns. (e) Oct. 3.

* * *

GUILDFORD R.C. (a) 4 dwellings and ancillary works at Rickford Hill, Worplesdon. (b) Engineer and Surveyor, Millmead House. (c) 2gns. (e) Oct. 3.

* * *

GUILDFORD B.C. (a) Public convenience, Woodbridge Road. (b) Borough Engineer, Municipal Offices. (c) 2gns.

* * *

HASTINGS B.C. (a) First phase of junior school at Tivoli. (b) Borough Engineer, 37, Wellington Square. (c) 5gns. (e) Nov. 5th.

* * *

HOLDERNESS R.C. (a) 4 aged persons' bungalows, Aldbrough. (b) Council's Surveyor, Council Offices, Skirlaugh. (c) 2gns. (e) Sept. 14.

* * *

HUDDERSFIELD B.C. (a) Alterations and adaptations at Fartown Grange, Spaines Road. (b) Borough Architect's Office, High Street Buildings. (c) 2gns. (e) Sept. 21.

* * *

KNUTSFORD U.C. (a) 40 houses, Warren Avenue Estate. (b) Council's Surveyor, Council Offices. (c) £2. (e) Oct. 2.

* * *

LEEDS C.C. (a) Ambulance station at Saxton Lane. (b) City Architect's Office, Priestley House, Quarry Hill. (c) 2gns. (e) Sept. 20.

* * *

LIVERPOOL C.C. (a) Adaptation of New Heys, Allerton Road. (b) City Engineer, Municipal Buildings, Dale Street. (c) Sept. 17.

* * *

LONDON—WOOD GREEN B.C. (a) Reconstruction after war damage of the pavilion at Chapmans Green, Lordship Lane. (b) Borough Engineer, Town Hall, N.22. (c) 2gns. (e) Sept. 26.

* * *

MAIDENHEAD B.C. (a) Contract 3B. 12 houses, Larchfield Estate. (b) Borough Engineer, 14, Craufurd Rise. (c) 2gns. (e) Sept. 21.

* * *

MALVERN U.C. (a) 10 bungalows, West Malvern Road. (b) Surveyor's Offices, The Council House. (c) 2gns. (e) Sept. 25.

* * *

MANSFIELD WOODHOUSE U.C. (a) 20 aged persons' bungalows, Park Road site. (b) Council Surveyor's Office, Council Offices, Manor House. (c) 3gns. (e) Sept. 25.

* * *

MERTHYR TYDFIL. (a) 12 houses and 1 manager's house, site clearance, road construction, soil and surface water sewers on the Gwaelod-y-Garth site. (b) Gordon H. Griffiths, 67, Queen Street, Cardiff (Architect to the Industrial Housing Association (No. 3). Ltd., Brettenham House, Lancaster Place, W.C.2). (c) 2gns. (e) Sept. 25.

MALTON U.C. (a) 2 blocks of 4 flats at Westgate, Old Malton. (b) Council's Architect, Town Hall. (c) 1gn.

* * *

MILLOM R.C. (a) (1) 50 houses, Hallsenna Road, Seascale. (2) 8 houses, Strands, The Green. (3) 1 pair of cottages at Lane End, Waberthwaite. (4) 1 pair of cottages at Mountain View, Irton Level. (5) 1 pair of cottages at Santon Village, Holmbrook. (b) Council's Surveyor, Council Offices, Market Square. (c) 2gns. (e) Sept. 29.

* * *

NORTHAMPTONSHIRE C.C. (a) Erection of (1) additional classrooms at Magdalen College, Brackley, (2) extensions at Corby Technical College, (3) first instalment of Kettering grammar school, (4) new school at Moulton, 5 new school at Rothwell/Desborough, (6) extensions at North End Modern School, Rushden, (7) extensions at Tennyson Road Modern School, Rushden. (Separate tenders). (b) County Architect, County Hall, Northampton. (d) Sept. 29.

* * *

NORTHWICH U.C. (a) 1 block of 7 shops and maisonettes, Manor Park Estate. (b) Engineer and Surveyor, The Council House, Church Road. (c) 3gns. (e) Sept. 24.

* * *

NORWICH C.C. (a) 186 dwellings in 6 groups on the North Park Avenue Estate. (b) City Architect's Office, City Hall. (c) £1. (e) Sept. 17.

* * *

PRESTON B.C. (a) 144 flats, The Larches Estate. (b) Borough Surveyor, Municipal Building. (c) 2gns. (e) Oct. 29.

* * *

SALFORD C.C. (a) 66 flats, Islington Street. (b) City Engineer's Office, Town Hall. (c) 5gns. (e) Oct. 5.

* * *

SALTASH B.C. (a) Contract 2/1951. 2 blocks of 3 houses, Warraton site. (b) Borough Surveyor, Church House. (c) 3gns. (e) Sept. 28.

* * *

SCOTLAND—GLASGOW E.C. (a) Schools in Glasgow area. (b) Director of Education, 129, Bath Street. (d) Sept. 15. New list of Contractors (various trades) to be prepared.

* * *

SCOTTISH VETERANS' GARDEN CITY ASSOCIATION. (a) Block of 4 houses at Barone Road, Rothesay. (b) General Secretary, 5, Manor Place, Edinburgh. (Separate trades).

* * *

SELBY U.C. (a) 24 houses, Stainer Wood Estate. (b) Messrs. Blenkinsopp and Thompson, Clifton Chambers, Park Street, Selby. (c) 2gns. (e) Sept. 28.

* * *

SLEAFORD U.C. (a) Public conveniences, Church Lane. (b) Council's Clerk, 19, Jermyn Street, Sleaford. (e) Sept. 22.

* * *

SURREY C.C. (a) Stores building in brickwork at the County Highway Depot, Ewell. (b) County Engineer, Highways and Bridges Dept., County Hall, Kingston-on-Thames. (c) 2gns. (e) Sept. 24.

* * *

THEDWASTRE R.C. (a) Garage and store at Hawk End, Elmswell. (b) Messrs. Hunt and Coates, 34, Guildhall Street, Bury St. Edmunds. (c) 2gns. (d) Sept. 22. (e) Oct. 10.

* * *

WARRINGTON LANCS. (a) Proposed R.C. secondary school, Warrington. (b) Messrs. Massey and Greaves, 17, Museum Street. (c) 5gns. (d) Sept. 14.

WIGSTON U.C. (a) 57 houses at Clarkes Road, Central Avenue Estate. (b) Messrs. Pick, Everard, Keay and Gimson, 6, Millstone Lane, Leicester. (c) 3gns.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

BUILDING

WILTSHIRE. (1) Erection of Army barracks. (2) Tidworth. (3) R. Costain, Ltd., Dolphin Square, London, S.W.1.

* * *

LEEDS CORPORATION. (1) 350 houses. (3) N. B. Bell and Co., Ltd., Frankland Terrace, Leeds. (4) £443,732.

* * *

LANCASHIRE C.C. (1) First phase of College of Further Education. (2) Lancaster. (3) Nicholson and Wright, Ltd., Cable Street, Lancaster.

* * *

LOTHIANS, SCOTLAND. (1) Development works at Easthouses Colliery, for National Coal Board. (3) Direct labour. (4) £318,000.

* * *

LONDON, N.W. (1) Offices and flats. (2) Eversholt Street, Euston. (3) L. and W. Whitehead, Ltd., 169, Clapham Road, S.W.9. (4) Cost: £110,000.

* * *

MITCHAM B.C. (1) 32 houses, 48 maisonettes, 4 flats. (3) Bunting Construction Co., Ltd., 73, Acre Lane, London, S.W.2. (4) £158,802.

READING B.C. (1) Flats. (3) Boyd and Murley, Ltd., London Street, Reading. (4) £101,540.

* * *

HAMPSHIRE. (1) Centrifuge Building, for Air Ministry. (3) Humphreys, Ltd., Knightsbridge, London, S.W.7. (4) £80,000.

* * *

PORTSMOUTH B.C. (1) Stage 1 of shopping centre. (3) Cortis and Hankins, Ltd., Lower Farlington Road, Farlington, Corsham, Hants. (4) £47,915.

* * *

BANSTEAD U.D.C. (1) 72 houses and flats. (3) J. Cartwright, Ltd., 100, King's Avenue, London, S.W.4. (4) £120,000.

* * *

OLDHAM E.C. (1) Stage 1 of Hathershaw technical school. (3) Moston Brick and Building Co., Ltd., Collyhurst, Manchester. (4) £45,000.

* * *

RYE E.C. (1) First stage of primary school. (3) R. Corben and Son, Ltd., Westborough, Maidstone. (4) £22,493.

* * *

EPSOM. (1) First stage of Epsom and and Ewell Technical College and Art School. (3) Wm. Willett, Ltd., Sloane Square, London, S.W.1. (4) Cost: £200,000.

* * *

HULL. (1) Superstructure of block of offices for Ravenseft Properties, Ltd., London, W.1. (3) F. G. Minter, Ltd., 4, Buckingham Gate, London, S.W.1.

* * *

LEEDS. (1) Erection of refectory for Leeds University. (3) J. T. Wright and Sons, Ltd., 85, Skinner Street, Leeds, 7.

OFFICIAL ANNOUNCEMENTS

APPOINTMENTS • CONTRACTS • TENDERS

Rate 25/- per inch Single Column *Close for press 1st post Monday for following Thursday Issue*

APPOINTMENTS

WILLENHALL URBAN DISTRICT COUNCIL

HOUSING ARCHITECT'S DEPARTMENT

APPLICATIONS are invited for the appointment of SENIOR ASSISTANT ARCHITECT in Grade VI (£645-£710) of the National Scales.

Applicants must be Associate Members of the R.I.B.A. and have experience in the design and construction of large housing developments, including shopping areas.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, to the National Scheme of Conditions of Service, and to the passing of a medical examination.

Applications, stating age, qualifications, experience, past and present appointments with dates and salary, and the names of two referees, must be sent to R. T. Chappelle, A.R.I.B.A., Housing Architect, Town Hall, Willenhall, Staffordshire, not later than 27th September, 1951.

JOHN R. RIDING,
Clerk of the Council.
[5753

BOROUGH OF CHATHAM

APPOINTMENT OF ASSISTANT ARCHITECT

APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECT within Grade V (£570-£620).

HOUSING ACCOMMODATION WILL BE MADE AVAILABLE IF REQUIRED.

Conditions of appointment and form of application may be obtained from Mr. H. D. Peake, M.Sc.(Eng.), Borough Engineer and Surveyor, Town Hall, Chatham, to whom completed application forms should be returned not later than Tuesday, 25th September, 1951. [5754

LONDON COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for positions of ARCHITECT, Grade III (£550-£700) and TECHNICAL ASSISTANT (up to £580) for architectural work on new housing, schools and other public buildings. The positions are superannuable and the above rates are subject to an addition of 10 per cent. on the first £600 and 7½ per cent. on any remainders.—Application forms from The Architect, The County Hall, S.E.1, enclosing stamped addressed foolscap envelope and quoting AR/EK/A. Canvassing disqualifies. (514.) [0106

MINISTRY OF WORKS.

THERE are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments, Telephone Exchanges, and Housing.

Salary: Architectural Assistants £340-£575 per annum, Leading Architectural Assistants £570-£675 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London; a small deduction is made in the Provinces.

Although these are not established posts, some of them have long term possibilities and competitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Islip Street, London, S.W.1, quoting reference WG10/BS. [5763

APPOINTMENTS—contd.

URBAN DISTRICT OF WEDNESFIELD.

ASSISTANT ARCHITECT.

APPLICATIONS are invited for the appointment of an ASSISTANT ARCHITECT at a salary in accordance with Grade V of the National Scale of Salaries.

Candidates should have had a wide experience in architectural design and construction.

The appointment, which will be terminable by one month's notice on either side, is subject to the provisions of the Local Government Superannuation Act, 1937, and the Council offer HOUSING ACCOMMODATION on a Service Tenancy.

The conditions of service will be those of the National Joint Council for Local Authorities Administrative, Professional, Technical and Clerical Services.

Applications, stating age, qualifications, present position and full details of experience, together with two recent Testimonials, should be delivered to the undersigned, not later than 22nd September, 1951, in a sealed envelope endorsed "Assistant Architect."

S. R. WRIGHT,
Clerk of the Council.

Council Offices,
High Street,
WEDNESFIELD,
Staffs. [5766

THE SOUTH WALES ELECTRICITY BOARD.

APPLICATIONS are invited for the position of an ARCHITECTURAL DRAUGHTSMAN in the Civil Engineering Department of the Board at St. Mellons, Cardiff.

Applicants will be required to undertake the layout and preparation of working drawings for showrooms, offices and substations, including measuring up and alterations to existing buildings.

The salary for the position will be in accordance with Class D, Grade 6 (£375/£500) of the National Joint Board Schedule for the Electricity Supply Industry.

Applications stating age, present position, present salary, qualifications and experience, and whether married or single, together with the names and addresses of three referees, should be addressed to the Secretary (Establishments Section), The South Wales Electricity Board, St. Mellons, Cardiff, so as to reach him not later than 22nd September, 1951.

D. G. DODDS,
Secretary.
[5771

COUNTY BOROUGH OF SOUTHAMPTON.

BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the following appointments:—(a) ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. VI (£645-£710). (b) QUANTITY SURVEYOR'S ASSISTANT, Grade A.P.T. I (£440-£485). (c) TEMPORARY CLERK OF WORKS (Housing) £10 per week inclusive.

Applicants for (a) should have passed the final examination of The Royal Institute of Chartered Surveyors (Div. IIIQ) and should be experienced in all branches of Housing Work; for (b) should be experienced in site measuring; and for (c) should be thoroughly experienced in all branches of building, competent to set out, take levels, keep accurate records and progress reports, and will be required to carry out his duties during those hours when building is in progress.

The appointment will be subject to the Scheme of Conditions of Service of the National Joint Council for Local Authorities for Administrative, Technical, Professional and Clerical Services; to the Local Government Superannuation Act 1937; to the successful applicants passing a medical examination, and to termination by one month's notice on either side in respect of (a) and (b) and one week in the case of (c).

Applications stating age, experience, qualifications, and war service (if any) together with copies of three recent testimonials should be submitted to the Borough Engineer & Surveyor, Civic Centre, Southampton, not later than Wednesday, 26th September, 1951.

R. RONALD H. MEGGESON,
Town Clerk.

Civic Centre,
Southampton.
September, 1951. [5776

EDUCATIONAL

HERIOT-WATT COLLEGE, EDINBURGH.

DEPARTMENT OF BUILDING.

HEAD OF DEPARTMENT: NORMAN C. SIDWELL, B.Sc., A.R.I.C.S., M.I.Struct.E.

SESSION 1951-52 will commence on 9th October, 1951.

The College provides a three years' full-time course for the award of the College Diploma and the Higher National Diploma in Building. This Course also provides a preparation for the First and Intermediate Examinations of the Royal Institution of Chartered Surveyors.

Prospectus and further particulars on request.

HUGH B. NISBET,
Principal.
[5764

NORTHERN POLYTECHNIC, HOLLOWAY, LONDON, N.7.

Principal: T. J. Drakeley, D.Sc., Ph.D. (London), F.R.I.C., F.I.R.I.

Head of Department of Architecture: T. E. Scott, C.B.E., F.R.I.B.A.

DAY SCHOOL OF ARCHITECTURE.

THE Northern Polytechnic Diploma in Architecture, which is awarded on the successful completion of the five years' full-time course and subsequent passing of the examination in Professional Practice, qualifies students for exemption from the Final Examination for Associateship of the Royal Institute of British Architects. The Diploma is also accepted by the Architects' Registration Council of the United Kingdom as a qualification for registration under the Architects (Registration) Acts, 1931-1938.

School year begins 24th September, 1951.

Fees—£25 per annum.

Students under the age of 18 may be admitted free.

EVENING SCHOOL OF ARCHITECTURE.

(Five years' Course recognised by the R.I.B.A. for exemption from the Intermediate Examination.)

New session begins 24th September, 1951.

Fees from 25s. to 65s. per course.

Special Design classes and lectures on the Theory of Structures, Hygiene, Materials, Specifications, and Professional Practice in preparation for the Final Examination of the R.I.B.A.

ENTRY TO THE SCHOOLS. Intending day students are interviewed by appointment. Intending evening students will be interviewed from 5.30-7.30 p.m. on 17th and 18th September, or on any subsequent Monday evening at 6.30 o'clock.

Prospectus post free on application.

Telephone North 1686.

CONTRACTS

BOROUGH OF WALTHAMSTOW

ERECTION OF FLATS

TENDERS are invited for the ERECTION OF 10 1-BEDROOM FLATS IN TWO STOREYS at a site on the east side of Chingford Road, Walthamstow, E.17.

Applications to tender should be made to the Borough Architect, Town Hall, Walthamstow, E.17, and must be accompanied by a deposit of £2 2s, returnable on receipt of a bona fide tender and the return of all documents issued.

The Bills of Quantities and Forms of Tender will be forwarded as soon as possible after the 18th September, 1951, and application should be made not later than this date.

Sealed tenders are to be delivered to the undersigned in the endorsed envelope provided by 12 noon on Monday, 1st October, 1951. Plans and Conditions of Contract will be available for inspection at the office of the Borough Architect between the hours of 9 a.m. and 5 p.m. from Monday to Friday, and from 9 a.m. to 12 noon on Saturday, after the date for the issue of the Bills of Quantities.

The Council do not bind themselves to accept the lowest or any tender.

G. A. BLAKELEY,
Town Clerk.
[5774

CONTRACTS—contd.

COUNTY BOROUGH OF BURTON UPON TRENT

HILLSIDE SECONDARY MODERN SCHOOL, PART II

APPLICATIONS are invited from Contractors who are desirous of tendering for the BUILDING of the SECOND INSTALMENT of the above mentioned school.

This instalment of the School comprises eight classrooms, Library, Staff room, Art room, Cloakrooms, Gymnasium, Assembly Hall, Dining Hall and Kitchen.

The structure is mainly of two storeys, in brick construction, partly steel framed with low pitched and flat roofs.

Applications for Bills of Quantities and Tender Form should be lodged with the Borough Surveyor before the 26th September, 1951, accompanied by a deposit of £3 3s, which is returnable upon receipt of a bona fide tender, or the return of the Bills.

Drawings, Specification and Conditions of Contract may be seen at the Borough Surveyor's Office.

The Bills will be despatched to applicants on 2nd October, 1951, and tenders in the envelope provided are to be delivered to the undersigned not later than 10 a.m. on 24th October, 1951.

Contractors will be required to satisfy the Council that they are in a position to provide the necessary labour to carry out the works.

The acceptance of a tender will be subject to the Standing Orders of the Council with respect to Contracts (a copy of which may be obtained on application to the Borough Surveyor) and to the execution of a formal Contract.

The Corporation do not bind themselves to accept the lowest or any tender, and persons tendering must do so at their own expense.

H. BAILEY CHAPMAN,
Town Clerk.

Town Hall,
Burton upon Trent,
September, 1951. [5761

BOROUGH OF STRATFORD UPON AVON

TO BUILDING CONTRACTORS

TENDERS are invited for the erection of 25 HOUSES at REDLANDS HOUSING ESTATE, ALCESTER ROAD, Stratford upon Avon.

Form of Tender and Bills of Quantities may be obtained from, and drawings inspected at, the office of the Borough Engineer, Municipal Offices, Stratford upon Avon, on or after the 10th September, 1951, on payment of the sum of £2 2s, which will be returned on receipt of a bone-fide tender.

Tenders, enclosed in plain sealed envelopes, and endorsed "Redlands Housing Contract, No. 6D," should be delivered to the undersigned not later than 12 noon on Monday, 1st October, 1951.

The Council does not bind itself to accept the lowest or any tender.

T. E. LOWTH,
Town Clerk.

2, Sheep Street,
Stratford upon Avon.
31st August, 1951. [5762

METROPOLITAN BOROUGH OF DEPTFORD

ERECTION OF FLATS

THE Council invites applications from Contractors desirous of submitting tenders for the ERECTION of a TRADITIONAL TYPE BLOCK of TWENTY-EIGHT FLATS in FOUR STOREYS at Brockley Road, Brockley, S.E.4.

Contractors wishing to submit tenders should inform the undersigned not later than noon on Monday, 24th September, 1951, at the same time giving details of similar work which they have recently executed.

Selected tenderers will be notified and will be issued with Bills of Quantities, etc., on receipt of a deposit of two guineas, which will be returned upon submission of a bona-fide tender, which is not subsequently withdrawn. The date for the receipt of tenders will be Wednesday, the 24th October, 1951.

Plans may be inspected at the Offices of the Council's Architects, Messrs. H. V. Ashley & Winton Newman, 3, Verulam Buildings, Gray's Inn, W.C.1.

The Council does not bind itself to accept the lowest or any tender, or to incur any cost in connection with the preparation of any tender.

ERNEST FIELD,
Town Clerk.

Deptford Town Hall,
New Cross, S.E.14.
7th September, 1951. [5775

EXAMINATIONS

I.A.A.S. FORTHCOMING EXAMINATIONS

THE Incorporated Association of Architects and Surveyors will hold examinations at Intermediate and Final grades in the following Sections during the week beginning 19th November, 1951:

ARCHITECTURAL.
QUANTITY SURVEYORS.
BUILDING SURVEYORS (LOCAL AUTHORITIES).
BUILDING SURVEYORS (PRIVATE PRACTICE).

The examination centres will be: London, Belfast, Birmingham, Blackpool, Bristol, Edinburgh, Hull, Manchester, Newcastle-on-Tyne, Newport (Mon), Nottingham, Plymouth, Southampton. Applications from candidates for permission to sit, made on the prescribed form, must be received not later than Monday, 24th September, 1951.

Full information on application to the Examinations Secretary, I.A.A.S., 75, Eaton Place, London, S.W.1.

N.B.—The Incorporated Association of Architects and Surveyors hereby give notice that the General Regulations governing examinations have been revised, and that the revised regulations will apply to the examinations to be held in May, 1952, and thereafter until further notice. Syllabuses containing the revised regulations are obtainable (price 1s) on application to the Examinations Secretary, I.A.A.S.

Notice is also given that the Association will hold a Preliminary Examination in March of each year, beginning 1952, and that examinations in the Land Survey Section will be held in May, 1952, and thereafter at half-yearly intervals. [5596

MISCELLANEOUS SECTION

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ARCHITECTURAL APPOINTMENTS VACANT

GOLLINS, MELVIN & PARTNERS require junior staff with office experience, capable working drawings; salary £350-£450 per annum; 5-day week.—Tel. Museum 0883 . [5738

OPPORTUNITY established London office for architect interested contemporary design, capable controlling staff and organising from inception large contracts; salary according to experience.—Box 3719. [5737

LONDON firm now engaged on large building schemes require two Architectural Assistants, both qualified A.R.I.B.A., with experience of site supervision in addition to the preparation of surveys and working drawings. Salaries £500-£650 according to experience. Write stating qualifications, experience and salary required, Box 3957 or telephone Welbeck 8962. [5773

TEMPORARY architect's assistants required in architect's office of the Civil Engineer's Departments, the Railway Executive, London Midland Region, Euston Grove, London, N.W.1, applicants must be good draughtsmen and have design ability, will be employed on large station reconstruction schemes; salary according to age and experience up to £515 per annum, certain residential travelling facilities granted.—Applicants should state age, qualifications and experience. [5765

PUBLIC NOTICE

CANDIDATES wishing to enter for the Rome Scholarship in Architecture, 1952, are reminded that applications for admission to the competition must be submitted before October 12th, 1951, to the Hon. General Secretary, British School at Rome, 1, Lowther Gardens, Exhibition Road, London, S.W.7. [5769

INSURANCE

ARCHITECT'S Indemnity Insurance effected.—Please write for Proposal Form to E. J. SAXBY, Incorporated Insurance Broker 37a, Carfax, Horsham, Sussex. Tel. 990. [5668

SITUATIONS VACANT

RELIABLE General Foreman required. Experienced men only need apply. Good salary. Satisfactory Contract Completion Bonus. Permanency for right man.—W. J. Channing & Sons, Ltd., Highbridge Road, Burnham-on-Sea. [5772

STRUCTURAL draughtsman required for Leamington Spa area, experience in design of industrial buildings and alterations necessary, knowledge of building work would be an advantage.—Copies of testimonials and salary required to Box 3013. [0111

ARCHITECTURAL draughtsman (aged between 25 and 35 years) required for London Office dealing with wide range of interesting industrial and domestic buildings of many types, good knowledge of standard practice and code requirements essential, knowledge of tropical buildings a distinct advantage; five day week; superannuation scheme; permanent position to right man with prospects of promotion.—Apply giving full details of age, experience and salary required to Personnel Division, Lever Brothers & Unilever, Ltd. (KAB-24), Unilever House, Blackfriars, London, E.C.4. [5767

SITUATIONS WANTED

CAMBRIDGE B.A. (Architecture) urgently seeks employment with London architect, while qualifying at evening classes.—Box 3972 [5777

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THATCHING and reedlaying contracts undertaken by experts.—J. G. Cowell, Soham, Ely, Cambs. [0112

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MODELS, architectural and industrial.—Inquire first of British Industrial Model Services, Ltd., Regent Chambers, Westover Rd., Bournemouth. [5724

PLUMBING drainage by registered plumbing contractor; work please preferred to just enquiries; R.P. 117A, Hornsey Road, N.7, London. [5768

PROFESSIONAL artist prepares coloured perspectives, interiors and sketch plans; quotations by return.—Turner, 3, George St., Croydon 2930 [5680

DUPLICATING work done accurately, and efficiently. Bills of Quantities a speciality.—William Stokes, 98, Chester Rd. (W), Shotton, Nr. Chester. [0113

A SPECIAL service to architects, contractors or the profession; war damage claims prepared, negotiated and assessed by experts; site measuring drawings, estimates and specifications prepared.—Architectural Surveyor, 71, Queenscourt, W.2. [5736

PATENTS

THE proprietors of Patent No. 594,555 for the manufacture of buildings by use of inflated cores are desirous of entering into negotiations for the sale of the patent.—Inquiries to Kings Patent Agency, Ltd., 146a, Queen Victoria St., E.C.4. [5778

MISCELLANEOUS

QUICKTHORNS.—Special offer 2-year super quality, fibrous-rooted, nursery grown, 12-18 in. 18/-, 160/-; 3-year plants, 18-30in, 30/-, 280/-; 30-40in, 35/-, 330/-; prices at per 100 and per 1,000 respectively; carriage paid; c.w.o.; enquiries invited for Privet and all hedging plants; large stocks at low prices.—Garden Beauty Products, Newhouse Nurseries, Wickford, Essex. (Wickford 52.) [0114

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